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The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

Published Every Thursday TULSA, OKLAHOMA, MARCH 29, 1928 $6.00 a Year

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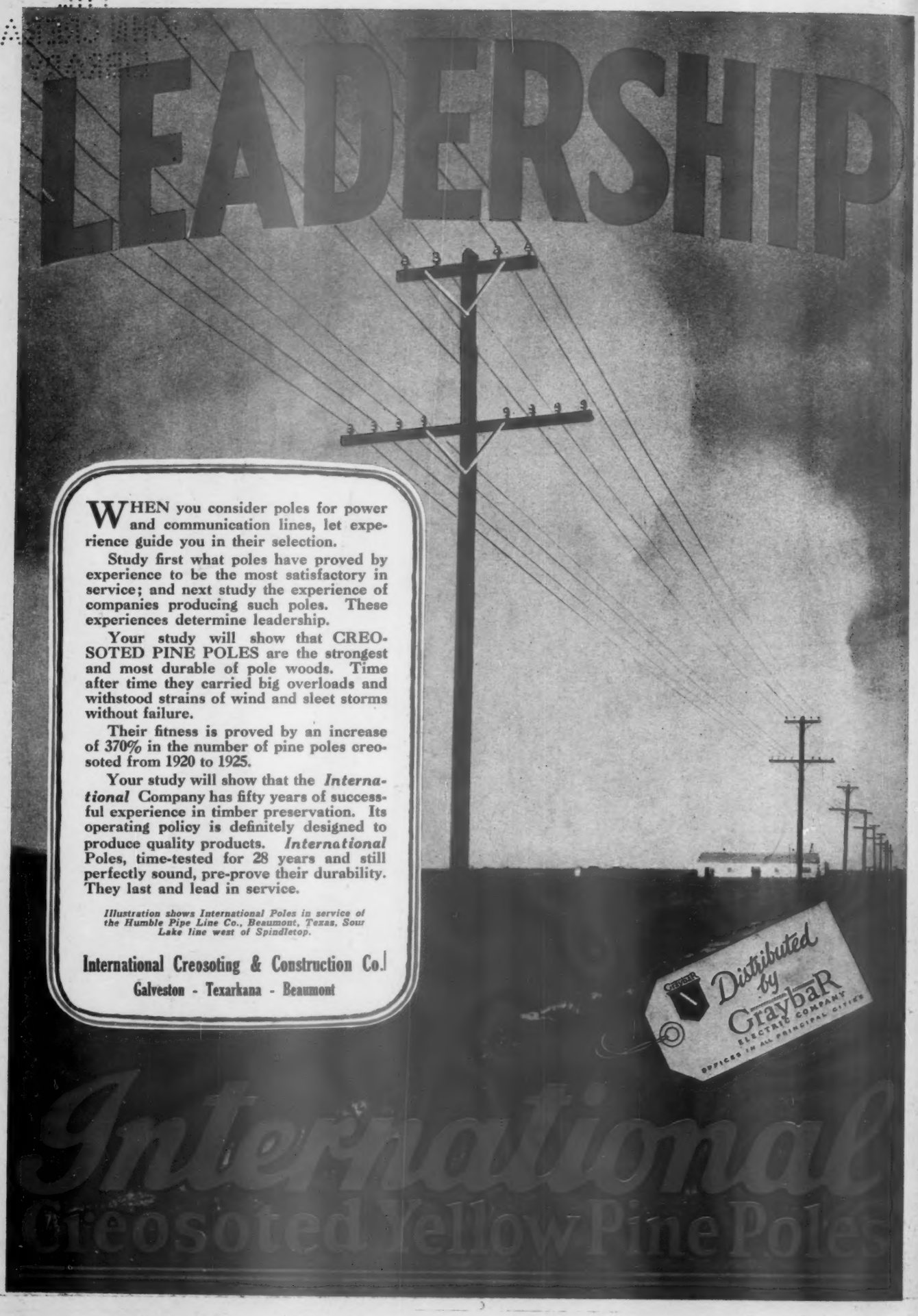
NEW

The Moore CHAMPION a super derrick

Advertisers' Index on Page 21

Table of Contents on Page 22


LEADERSHIP
WHEN you consider poles for power and communication lines, let experience guide you in their selection.
Study first what poles have proved by experience to be the most satisfactory in service; and next study the experience of companies producing such poles. These experiences determine leadership.
Your study will show that CREOSOTED PINE POLES are the strongest and most durable of pole woods. Time after time they carried big overloads and withstood strains of wind and sleet storms without failure.
Their fitness is proved by an increase of 370% in the number of pine poles creosoted from 1920 to 1925.
Your study will show that the International Company has fifty years of successful experience in timber preservation. Its operating policy is definitely designed to produce quality products. International Poles, time-tested for 28 years and still perfectly sound, pre-prove their durability. They last and lead in service.
Illustration shows International Poles in service of the Humble Pipe Line Co., Beaumont, Texas, Sour Lake line west of Spindletop.
International Creosoting & Construction Co.
Galveston - Texarkana - Beaumont
Distributed by
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ELECTRIC COMPANY
OFFICES IN ALL PRINCIPAL CITIES
International
Creosoted Yellow Pine Poles

An Installation of 6-Inch Walworth Valves
Henrietta Pipe Line Company
At Wetumka, Oklahoma

FIG. 2143 IRON BODY O. S. & Y. DOUBLE DISC SCREWED GATE VALVE 1000 POUND TEST

ANOTHER job for Walworth in the oil country! Where safety, reliability and performance of pipe lines are essential, Walworth valves are becoming more and more the choice of experienced oil country engineers.

In this installation at the Henrietta Pipe Line Company's pumping station there is an array of 6" Walworth Iron Body High Pressure Gate Valves that is typical of similar installations in the production and refining fields throughout the country.

The Walworth Iron Body line covers the entire range of pressures and sizes suitable for the needs of oil refining and producing operations. Walworth jobbers have complete stocks wherever oil men are at work. They are at your service.

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The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879

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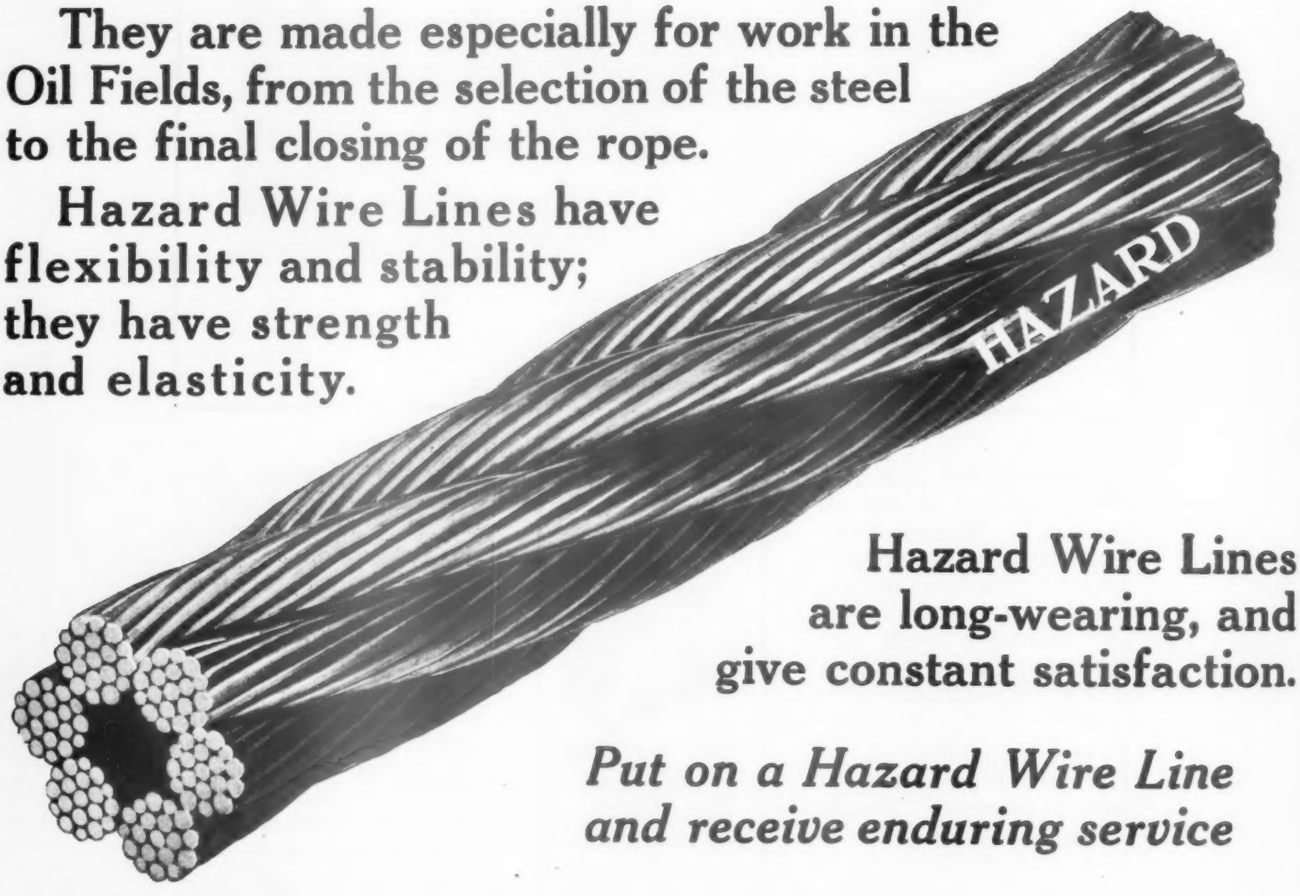
give enduring service!

They are made especially for work in the Oil Fields, from the selection of the steel to the final closing of the rope.

Hazard Wire Lines have flexibility and stability; they have strength and elasticity.



Hazard Wire Lines are long-wearing, and give constant satisfaction.

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A·P·I·
Specification
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Sucker
Rods

COMPARE THEM YOURSELF with rods of steel which has not been heat treated and you'll see the economy of D&B Heatreat Sucker Rods. Special heat-treated steel, with a tensile strength of 112,000 pounds per square inch is used in their manufacture. Untreated steel has a tensile strength of but 90,000 pounds. You know what that difference means when you're running a long string . . . .
And a copy of our special folder on Heatreat Sucker Rods will tell you even more . . . . . .

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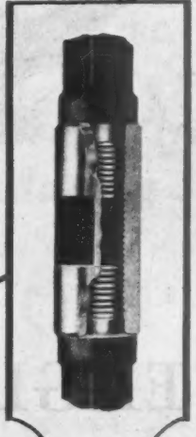

D&B A.P.I. Heatreat Sucker Rod with tempered and ground coupling.

Double Extra Heavy

Speed!

Time this Elevator with any other—in operation—and you'll be amazed with the greater speed and ease of handling the Wilson. The crews like it because it's safer, and can be handled without awkward manipulation. The spring-latch never lets go.

The best all-around elevator—it handles casing, pipe and tubing safely—and at highest speed.

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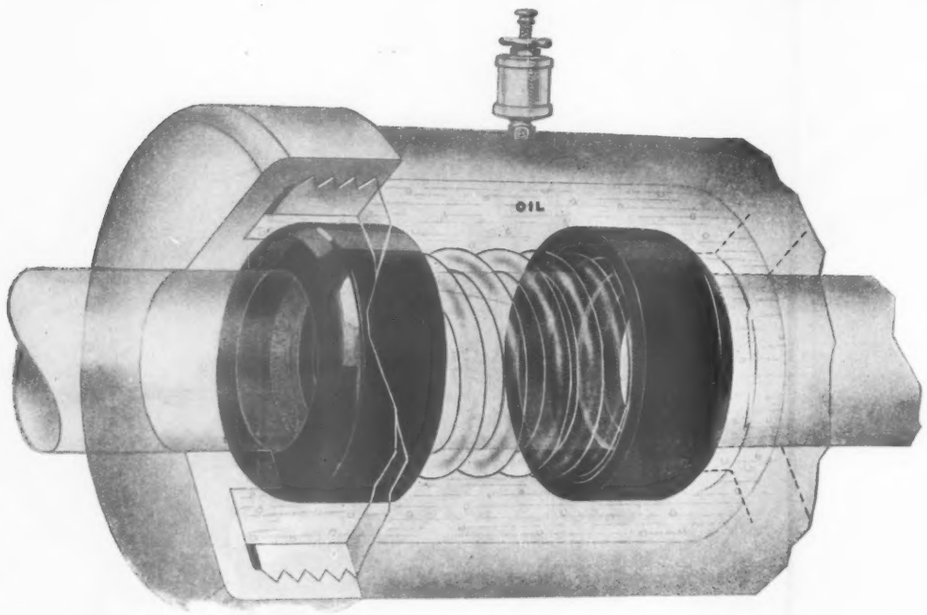
Adopted by engineers of the leading oil companies



THAT alone should be sufficient recommendation for the Cooke Seal Ring, but follow along a bit and see why the engineers for Standard, Sinclair, Shell, Sun, etc. are all continually specifying Cooke Seal Rings in place of the antiquated stuffing boxes and packing glands.

This simple device, consisting of but four major parts, does away with pump leaks, packing difficulties, scoring, motor load, hot boxes and 90% of packing friction. Developed in the ammonia refrigerating field, the Cooke Seal Ring is equally efficient in holding either pressure or vacuum on the most volatile fluids and gases encountered in the oil field.

A ground joint having a bearing surface of only 3/16 inch, bound frictionally tight *on* and rotating *with* the shaft at all speeds instead of pressing against it, the Cooke Seal Ring absolutely seals all liquids or gases with no service or attention except an occasional oiling.

The cost of Cooke Seal Rings makes it highly advisable that you use them wherever you are now depending upon the inefficiency of the antiquated packing gland.

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Please send me your FREE booklet.
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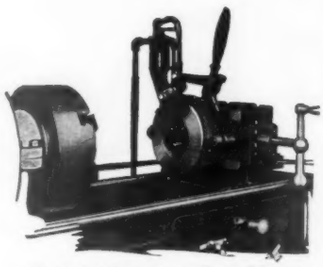
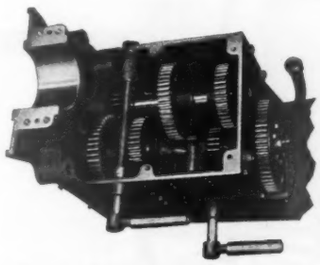
City State

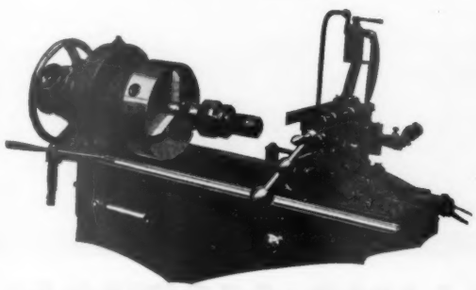
Send for this book



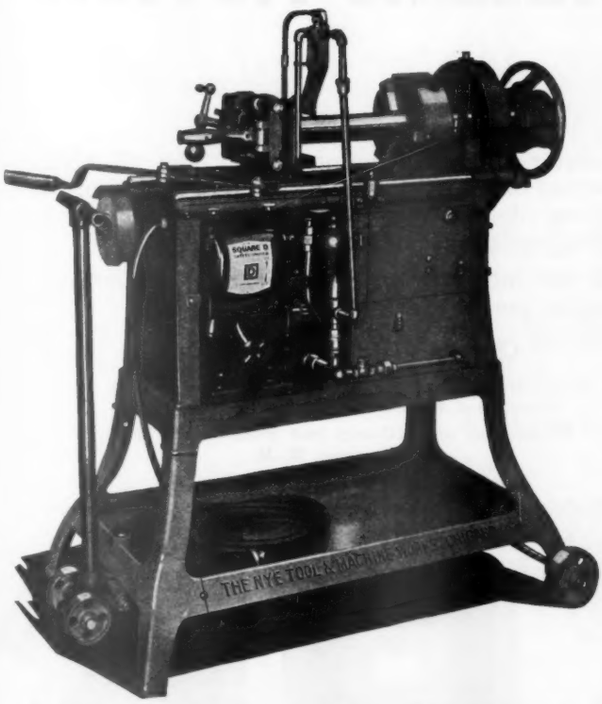
Quick Opening Die Head



Gear Case running in oil assuring perfect lubrication.



View of machine showing position of nipple chuck, cutting off tool and reamer.



Capacity: ¼ to 2 inches inclusive. With Universal Drive Shaft will operate stocks up to 12 inches. Note Grinding Attachment—2600 R.P.M.

A LETTER FROM HARRY G. NYE

TO THE OIL MEN OF THE U. S. A.

FELLOW CITIZENS:

One of the most important questions before the public right now is the question of food. It really divides itself into two questions: what to eat and where to get it. I guess I told you about that doctor of mine who told me I couldn't eat beefsteak and onions. Then I looked at the bill-of-fare and saw that beefsteak and onions was a dollar and a quarter, and I knew it. I didn't need to have a doctor tell me.

Food is divided into two classes, that is, between two classes; those who have it and can't eat it, and those who can eat it and can't get it. When my doctor tells me I can't eat any of these thirty-five-cent pastries, he isn't telling me anything new. My banker has already told me the same thing, without charging me a single cent. No, six per cent instead.

Food is also of two kinds, animal and vegetable, although I never could figure out the difference. Because it is the vegetables it eats that really make the cow, and then the cow turns around—well, I never could figure out the difference. But, anyway, that's what the scientists say, that there are two kinds of food, and I suppose the scientists know more than a cow; or some of them, anyhow.

In restaurants, of course, there are three kinds of food: good, bad and indifferent. Of course, sometimes there are only two kinds of food, good and bad, and it is the waiters who are indifferent. I never could understand why they are called waiters, when we are the ones who have to do the waiting. I knew a fellow who went into a restaurant a mere child, and came out an old man. But it was his own fault; he shouldn't have ordered a minute steak.

But the best food is the home-cooked food, after all. And times haven't changed so much. How our mothers used to knead the dough! And how our wives need the dough now! Some women are just crazy about money. They are regular dough nuts. Well, if it's dough you want, that's easy: use Nye Tools. They cut costs by working easier and increase profits by working faster. They are the best money-makers any oil man ever had.

Truthfully yours,

HARRY G. NYE

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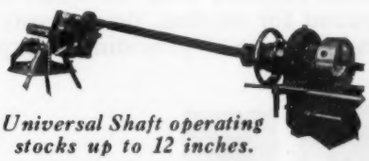

Universal Shaft operating stocks up to 12 inches.

Otherwise Known as

THE NYE TOOL AND MACHINE WORKS
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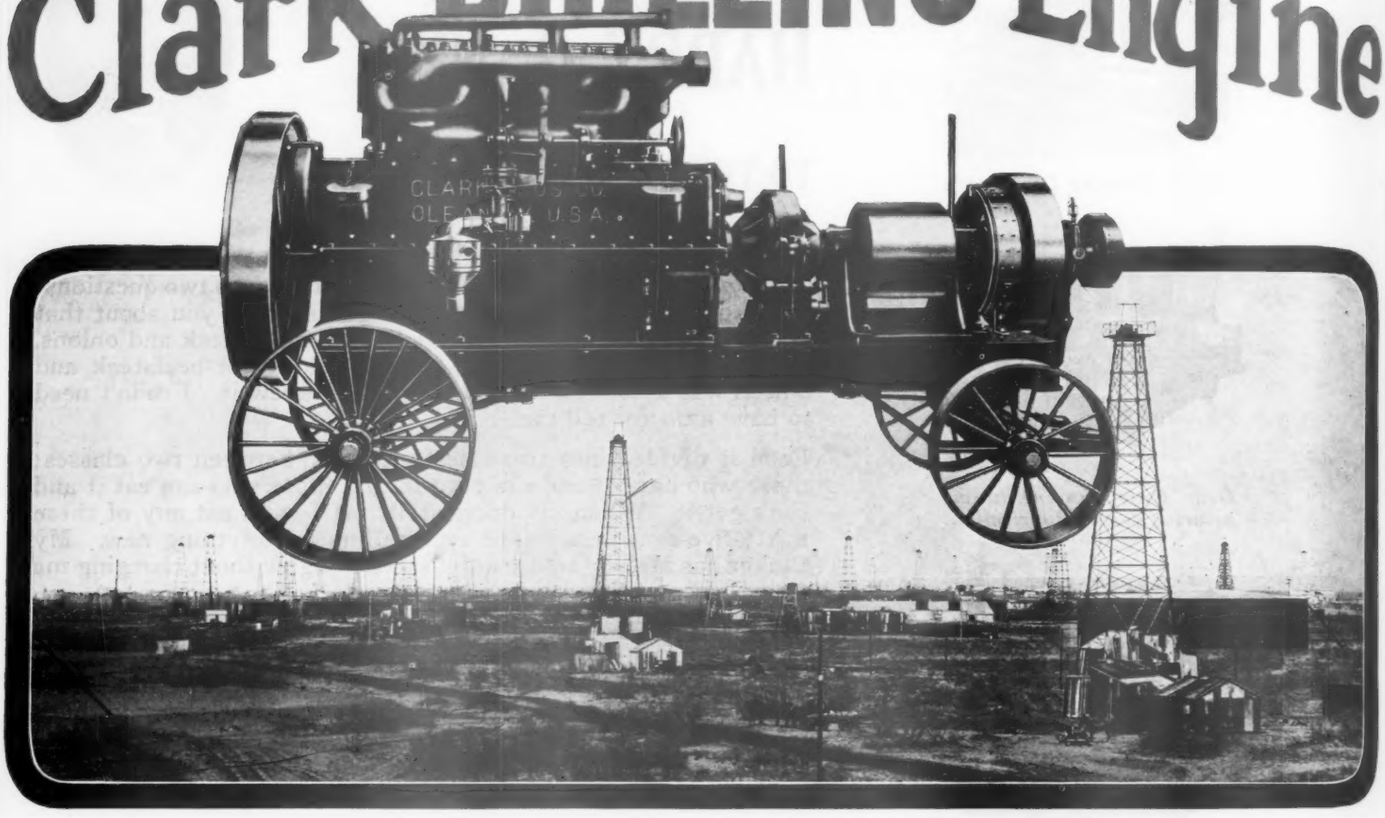
Clark DRILLING Engine



GIVES A PERFECT DRILLING MOTION

Drills Faster Uses Less Water and Fuel

The CLARK Drilling Engine, with its 4 cylinders, furnishes ample power for the deepest drilling, and gives the desired s-l-o-w drilling motion, dropping the tools, following them and picking them up like a steam rig.

The CLARK will maintain maximum power at maximum speed indefinitely. By thus eliminating delay due to lack of power, it is conservatively estimated that the CLARK saves enough drilling time to average an additional 25 feet of hole daily.

The CLARK requires only the small amount of water required for cooling, doing away with the trouble and expense of providing a large amount of water, and of cleaning scale. The CLARK operates on approximately 7,000 feet of gas, or 75 gallons of gasoline, per day, thus effecting a drastic saving in fuel cost.

Ask for full particulars about this economical, durable, portable drilling engine.

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Branch and Warehouse: 125 W. First St., Tulsa
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CLARK

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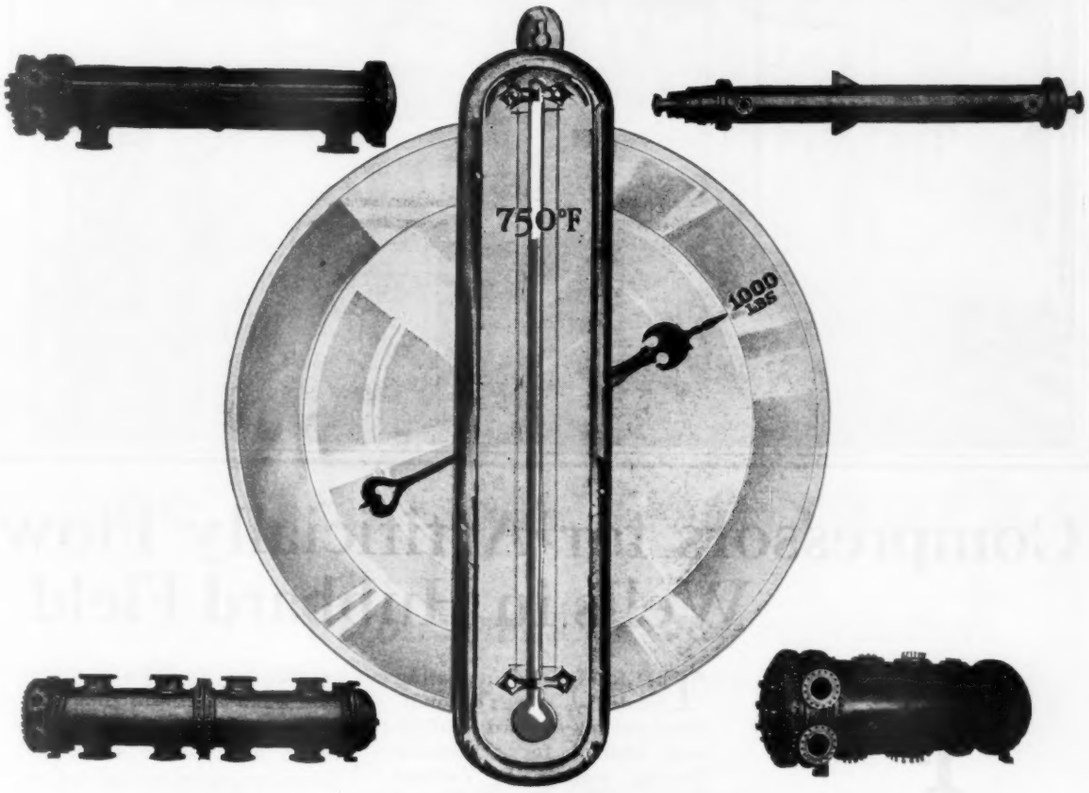
EXCHANGERS



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MANUFACTURING MECHANICAL ENGINEERS

ALHAMBRA - CALIFORNIA

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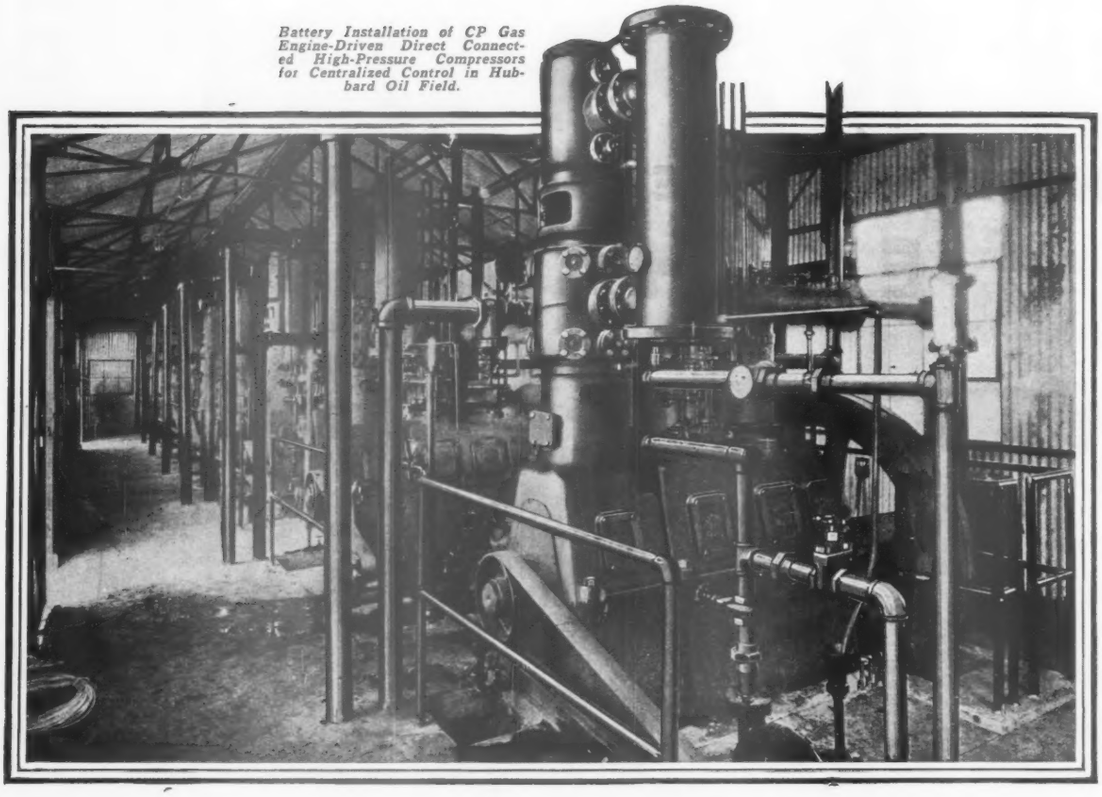
BRAUN

Battery Installation of CP Gas Engine-Driven Direct Connected High-Pressure Compressors for Centralized Control in Hubbard Oil Field.



CP Compressors for Artificially Flowing Wells in Hubbard Field

Oil-Field Equipment:

Compressors for flowing oil wells
Vacuum Pumps, Condensers and Compressors for refinery service
Gas Compressors for pressure boosting
Diesel Engines 80 to 450 h.p.
Gas Engines 90 to 270 h.p.
Portable Oil and Gas Engine-Driven Compressors for cleaning wells and tank farm work.
Pneumatic Riveters, Chippers, Caulkers, Scalers, Drills, Reamers and Grinders for every portable tool job.

THERE is an increasing tendency, where conditions permit, toward centralized control for artificially flowing wells. CP Vertical Oil and Gas Engine-Driven units are well suited to these requirements. They are self-contained machines, easily transported and require foundations comparatively small—and in case of necessity are economically changed from Gas to Oil, or vice-versa.

CP Compressors for oil-field service, are available in many types and sizes—all Simplate Valve equipped. And, a wide range of cylinder sizes, all interchangeable, are carried in stock at convenient points. This is a feature of CP Compressors that should be kept in mind when selecting machines for the flowing of wells. Our oil-field organization has had a wide experience in both air and gas-lift—if you are in doubt they can render you valuable service.

C-259

Chicago Pneumatic Tool Co.

6 East 44th Street, NEW YORK, N. Y.

Whealton & Townsend, Inc., *Authorized Distributors*

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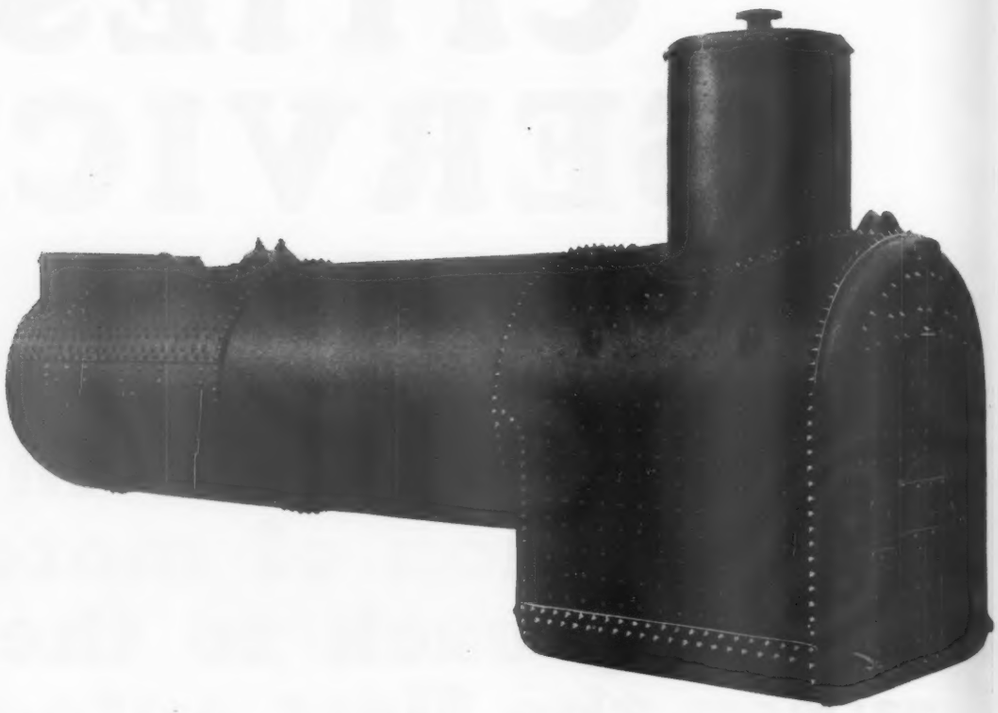
KEWANEE BOILERS



KEWANEE
Is Building A.P.I. Boilers

By Invitation Member
Emblem of
BUSINESS CHARACTER
Rice Leaders of the World Association
Represents High Standing in
NAME - PRODUCT - POLICY

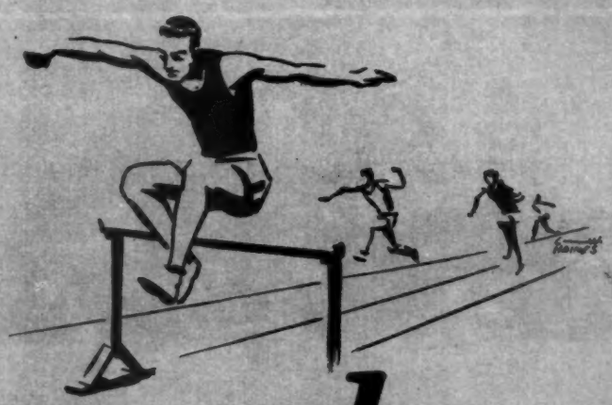
Each latest ruling issued by the A.P.I. Boiler Committee will be fully complied with and used only as a minimum limit.

In all particulars our boilers are above code requirements; based on forty years experience building boilers for long and satisfactory service most economically.

INTERNATIONAL SUPPLY COMPANY
TULSA, OKLAHOMA

Branches in all Principal Fields

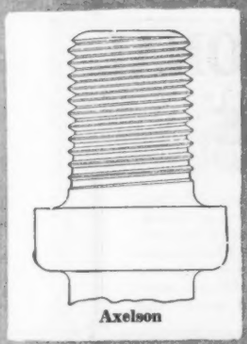
INTERNATIONAL
Supply Company



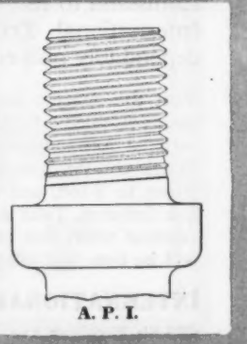
Leaps ahead in A·P·I· rod development

Frankly, the A.P.I. Specification Sucker Rod requires the most difficult and painstaking operations in machining, gauging and finishing. No operation in oil field equipment manufacturing demands such exacting accuracy.

But fortunately we have for years been preparing for the task. When the decision to place A.P.I. Sucker Rods on production was made, we had the facilities, experience and initiative to accurately produce them without fear of imperfections in any phase of manufacture.



Axelson



A. P. I.

Axelson Machine Company

P. O. Box 337, Los Angeles.
Tulsa, St. Louis, New York City

Mid-Continent Distributors—Frick-Reid Supply Co.
Eastern Distributors—Frick & Lindsay Co.

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

AXELSON SUCKER RODS

The view above shows five of six International Trucks owned by Sneed & Sneed, oil field contractors of Shreveport, La. *Below*: The Leader Oil Company of Dubuque, Iowa, has thirty Internationals in service at its many branches. Internationals were chosen as standard equipment only after they had fully proved their superiority.

When You Think of Trucks—remember INTERNATIONAL!

REMEMBER, too, that oil field contractors everywhere have found International Motor trucks absolutely dependable in the gruelling work of hauling oil, machinery, supplies and materials necessary to drillers in search of "liquid gold." Oil, like gold, is where you find it—usually in places where there are no roads and where stumps, ditches and mud are a constant menace. Only the toughest truck can stand the gaff of a new oil field.

Is it not significant that International Trucks are the choice of oil men? In all departments of the oil industry, notably in production and delivery, Internationals are preferred. From Louisiana to Iowa—anywhere—you will find International Trucks hauling oil—cheaply, dependably and economically.

Visit the nearest International Truck dealer the next time you need a truck. Ask him to explain the "International Company-owned Service." Get an International Truck catalog and study the models, ranging from ¾-ton to 5-ton, and acquaint yourself with the many fine features. Take a turn at the wheel and find out yourself what fine trucks Internationals really are. It will be time and effort profitably spent.

INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. OF AMERICA (Incorporated) **Chicago, Ill.**

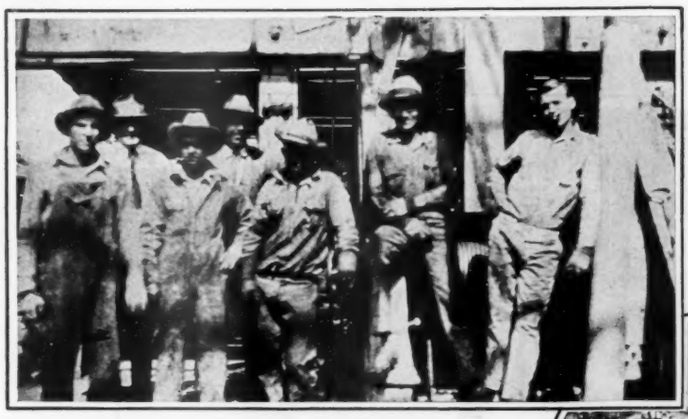
"We Now Have 30 Internationals"

"....We now have thirty of your International Trucks in service, including various sizes and models . . . . our reason for standardizing on International equipment is because we have never received anything like the wonderful service on any other make of truck after we owned it, like we have on Internationals. . . . We have several of your trucks operating every day which are entirely charged off our books.

Yours very truly,
LEADER OIL COMPANY
L. F. Kuehnle, *President.*"

INTERNATIONAL HARVESTER TRUCKS COMPANY

The International Harvester Automotive line includes the ¾-ton Special Delivery Truck, Speed Trucks of 1¼, 1½, and 2-ton, Heavy-Duty trucks up to 5-ton, and McCormick-Deering Industrial Tractors. Service "is always around the corner." There are 160 company-owned branches in the United States and Canada.



Crew of the Klingensmith Drilling Company who made this phenomenal drilling record.

Busy scene at Seminole, Okla., in the heart of the famous Seminole Area.

1,000 Feet of 11-in. Hole in 40 Hours

USING a Kennedye-Plumb Straight Hole Bit having Agathon Alloy Steel cutters and reamers, the above crew of the Klingensmith Drilling Company made 11-inch hole for a thousand feet through hard formations in 40 hours at Pearson Switch in the Greater Seminole Area. An offset well that started tour five days previous was passed by a hundred feet. And the cost for Agathon Alloy cutters and reamers averaged only 3 cents per foot.

The Kennedye-Plumb Corporation is backed by seventy years of experience in making fine tools. They know full well that to drill hard formations requires steel which can be heat-treated to resist abrasion and at the same time retain its toughness. The fact that after trying many other steels, these experienced tool makers standardized on Agathon Alloy Steels has its significance.

Tell us about your bit steel requirements. Let our expert metallurgists help you solve your steel problem without charge.

Central Alloy Steel Corporation, Massillon, Ohio

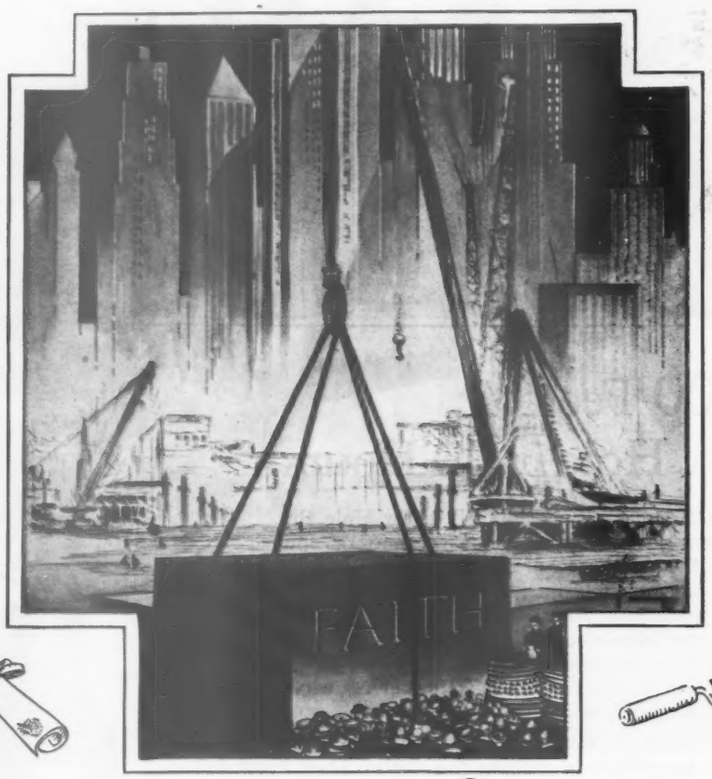
World's Largest and Most Highly Specialized Alloy Steel Producers

Makers of Toncan Copper Mo-lyb-den-um Iron

Cleveland · Syracuse · San Francisco · Detroit · Philadelphia · Chicago · Los Angeles · New York · Tulsa · St. Louis · Cincinnati · Seattle

AGATHON ALLOY STEELS

CORNER STONES



CHESTNUT & SMITH
CORPORATION

The Corner Stone of any structure is its strength. It is vital—so important that the traditional custom has been to dedicate its resting place and set it ceremoniously with silver trowel and oratory.

In the foundation of a great enterprise—in the building of an industry, there is the corner stone—not of granite or cement, but stronger and more lasting . . . it is faith.

"Faith will move mountains." It will also build an industry to mountainous proportions. The corner stone of the Natural Gasoline Industry has been the abiding faith of its builders. Chestnut and Smith Corporation helped to lay the corner stone of Faith and they built upon it for their own part a business structure of pre-eminence. An abiding Faith over the years has begotten an improved and superior product—its latest reward is NATURALINE—a super-aviation motor fuel.

NATURALINE
A SUPER AVIATION MOTOR FUEL

CHESTNUT & SMITH BUILDING ··· TULSA, OKLA.

Cable Address: NATURALINE

When you need piping

Whether you require fabricated piping for a complete refinery or only a bend, coil or welded header—you will find it profitable to consider the following advantages that Midwest has to offer you:

The facilities, organization and stock of pipe, flanges and fittings at both St. Louis and Los Angeles to do the work quickly and efficiently. Intelligent interpretation of drawings and specifications. Fabrication in accordance with the most modern practices. Competent engineering assistance which has frequently resulted in simplification of piping design and substantial cost reductions.

Get in touch with the office nearest you

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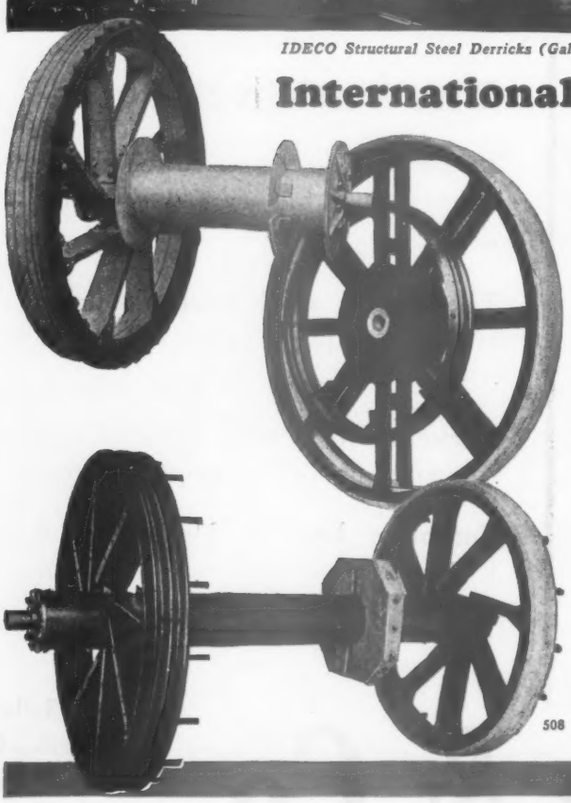

508

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The ADVERTISERS' INDEX

A

Acme Fishing Tool Co.
Aetna Ball Bearing Mfg. Co. 202
Ajax Iron Works
Ajax Rope Co.
Alfit Packing Co., Inc. 166
Allegheny Steel Co.
Allis-Chalmers Mfg. Co.
Alloys Company, The
Aluminum Co. of America
Amarillo Abstract Co. 207
American Cable Co., Inc.
American Car & Foundry Co.
American Hammered Piston Ring Co.
American Iron & Machine Works, Inc.
American-La France & Foamite Corp. 112
American Manganese Steel Co. 50
American Radiator Co.
American Roller Bearing Co.
American Rolling Mill Co.
American Schaeffer & Budenberg Corp.
American Sheet & Tin Plate Co.
American Steam Pump Co.
American Telephone & Telegraph Co.
American Well Works 149
Andrews Steel Co. 127-205
Arco Company, The
Armstrong Bros. Tool Co. 206
Ash Grove Lime & Portland Cement Co.
Athey Truss Wheel Co.
Atmore, Robert N., Co. 145
Austin Co. 152
Austin Machinery Corp.
Axelson Machine Co. 13

B

B. & A. Specialty Co. S-37A
Baash-Ross Tool Co.
Babcock & Wilcox Tube Co., The
Badger, E. B., & Sons, Co.
Baker Casing Shoe Co. 144
Baker-Lockwood Mfg. Co.
Baldwin Chain & Mfg. Co.
Banner Rock Products Co.
Barber-Greene Co. 139
Barco Manufacturing Co. 68
Barnickel, Wm. S., & Co. 205
Barnsdall Refineries, Inc.
Bartlesville Supply Co.
Beaumont Iron Works Co.
Belmont Packing & Rubber Co.
Benjamin Electric Mfg. Co.
Bessemer Gas Engine Co. 118
Bethlehem Steel Co.
Bignall & Keeler Machine Works
Bovaird Supply Co., The
Braden Steel & Winch Co. S-28, 162
Braun, C. F., & Co. 9
Bristol Co. 202
Broderick & Bascom Rope Co.
Brooks Engineering Corp.
Brown, Arthur C. 207
Brown Instrument Co 191
Brownell Co.
Buckeye Traction Ditcher Co. 150
Buda Co. 147
Buffalo Bolt Co. 164
Buffalo Gasolene Motor Co.
Buffalo Meter Co. S-35
Burt Mfg. Co.
Butler Mfg. Co.
Byers, A. M., Co.
Byron Jackson Pump Mfg. Co.

C

California Pipe Line Machine Co.
Cameron Iron Works
Cameron Tool & Supply Co., The
Campbell, J. A.
Canadian Pacific Railway Co.
Carbondale Machine Co. 205
Carey, Phillip Co., The
Casey-Hedges Co., The S-18
Caterpillar Tractor Co.
Celite Products Co.
Central Alloy Steel Corp. 15
Central Tube Co. 204
Chain Belt Co. 43
Champion Machine & Forging Co.
Chaplin-Fulton Mfg. Co. 203
Chapman Valve Mfg. Co.
Chestnut & Smith Corp. 16
Chicago Bridge & Iron Works 148
Chicago Pneumatic Tool Co. 10
Chipman Chemical Eng. Co., Inc.
Chisholm-Moore Mfg. Co.
Clark Bros. Co. 8
Classified Wants 168-169
Climax Engineering Co. 130
Columbian Rope Co.
Columbus Forge & Iron Co.
Connor, W. B., Co., Inc., The 207
Continental Motors Corp. 132
Continental Supply Co., The 55
Cooke Seal Ring 6
Cooper, C. & G., Co. S-20, S-21
Crane Co. S-2, S-3
Crane Packing Co.
Crescent Belt Fastener Co.
Crosby Steam Gage & Valve Co. S-13

D

D. & B. Pump & Supply Co. 4
Darling Valve & Mfg. Co. 194
Dart, E. M., Mfg. Co.
Davis, G. M., Regulator Co. 154
Dearborn Chemical Co.
De La Vergne Machine Co.
Delta Electric Co.
DeSoto Fdy. & Mch. Co., Ltd.
Detex Watchclock Corp.
Detroit Graphite Co.
Diamond Drill Carbon Co. 207

D

Dixon, Joseph, Crucible Co.
Donovan Boiler Works, Inc. 122
Dresser, S. R., Mfg. Co. 33
Dunn Mfg. Co. 37
DuPont de Nemours & Co., E. I., Inc.

E

Eagle-Picher Lead Co. 3
Eastern Torpedo Co. 205
Economy Pump & Oil Tool Co., The
Edward Valve & Mfg. Co.
Electrical & Magneto Co.
Electrical Specialties, Inc. S-18
Elliott Core Drilling Co.
Empire Oil & Refining Co. 11
Emsco Derrick & Equipment Co.
Ethyl Gasoline Corp.
Exchange National Bank

F

Fairbanks-Morse & Co.
Federal Supply Co.
Fenwick-Reddaway Mfg. Co. 200
Fisher Governor Co. S-14
Fisk Tire Co., Inc., The
Flexible Steel Lacing Co.
Fluor Construction S-39
Foos Engine Co., The S-23
Ford Chain Block Co.
Foster Wheeler Corp.
Foxboro Co., Inc., The S-36
Franklin Valveless Engine Co. 66-67
Frick-Reid Supply Co. 48

G

Gardner-Denver Co. 109-197
Garlock Packing Co.
Gasoline Recovery Corp.
Gaso Pump & Burner Mfg. Co.
Inside Back Cover
General American Tank Car Corp.
General Asbestos & Rubber Co.
General Electric Co.
Gilbert & Barker Mfg. Co.
Goodrich, B. F., Rubber Co.
Goodyear Tire & Rubber Co. 64
Gott, H. P., Mfg. Co.
Goulds Pumps, Inc.
Graham Brothers
Graver Corp.
Gray Processes Corp.
Greenspon's, Joseph, Sons, Iron & Steel Co. 161
Griscom-Russell Co. 163
Guiberson Corp. 135
Gulf Refining Co.

H

Halliburton, Erle P., Co. 53
Halliburton Oil Well Cementing Co.
Harrisburg Pipe & Pipe Bending Co. 159
Haynes Stellite Co.
Hazard Wire Rope Co. 2
Heat Transfer Products, Inc.
Heppenstall Forge & Knife Co.
Hercules Motors Corp.
Hercules Supply Co.
Hercules Tool Co.
Heydrick Mapping Co. 207
Hill Clutch Machine & Fdy. Co., The S-24
Hill, Hubbell & Co.
Hills-McCanna Co.
Hinderliter Tool Co.
Homestead Valve Mfg. Co.
Hope Engineering & Supply Co. 57
Hopkins, Edwin B. 207
Hough, Charles N., Mfg. Co. 166
Hoyt Metal Co.
Hughes Tool Co. 63
Humble Oil & Refining Co.
Hunt, Robert W., Co. 204
Hussmann Hotel 206
Hyatt Roller Bearing Co. 129

I

Imperial Belting Co.
Imperial Royalties Co.
Indiana Truck Corp.
Ingersoll-Rand Co. S-9
International Creosoting & Construction Co. Inside Front Cover
International Derrick & Equip. Co. 20
International Harvester Co. of America 14
International Nickel Co.
International Supply Co. 12

J

Jackson Engineering & Equipment Co. S-39
Jarecki Mfg. Co.
Jefferson Union Co. 155
Jenkins Bros. 157
Jensen Brothers Mfg. Co.
Johns-Manville Corp. S-4A
Jones, S. M., Co. 206

K

Kansas City Hay Press Co.
Kaw Steel Construction Co.
Kellogg, M. W., Co. 207
Kelley, Kork
Kelly, John Eoghan
Kennedy Valve Mfg. Co.
Kennedye-Plumb Corp. 115
Kerotest Mfg. Corp.
K-W Ignition Corp., The

L

Lally-McKelvey, Inc.
Landis Machine Co. S-6
Larkin & Co. 19
Layne & Bowler Co. Back Cover
Leader Iron Works 195
Lehmann Machine Co.
Leidecker Tool Co.
Leschen, A., & Sons, Rope Co.
Lientz, B. P., & Co.
Lincoln Electric Co.
Linde Air Products Co.
Link-Belt Co.
Long-Bell Lumber Co., The 131
Longyear, E. J., Co.
Lorraine Corp., The 126
Lucey Mfg. Corp.
Ludlow Valve Mfg. Co. 160
Lufkin Fdy. & Machine Co.
Lufkin Rule Co. 207
Lunkenheimer Co. 141

Mc

McCord Radiator & Mfg. Co. S-5, 119
McEvoy, J. H., & Co.
McGregor Working Barrel Co.
McIntosh & Seymour Corp.
McKee, Arthur G., & Co.

M

M. & M. Mfg. Co., The
Macwhyte Co.
Madison-Kipp Corp. 201
Magnolia Petroleum Co.
Maloney Tank Mfg. Co. 158
Marion Machine Fdy. & Supply Co.
Marsh Gauge Pole Co.
Mason Regulator Co.
Mathieson Alkali Works, Inc.
Merco Nordstrom Valve Co.
Meriam Co., The S-31
Merrill Company, The
Metric Metal Works
Midwest Piping & Supply Co. 17
Miller Improved Gas Engine Co.
Mission Sales Co.
Moon Mfg. Co.
Moore, Lee C., & Co., Inc. Front Cover
Moore Drop Forging Co.
Moran Furnace & Sheet Metal Co. S-35
Munn & Co. 207
Myers, F. E., & Bros., Co. 206

N

National Carbon Co., Inc.
National Petroleum Engineering Co. 207
National Supply Co. 117
National Transit Pump & Machine Co. 41
National Tube Co.
Neilan, Shumacher & Co.
Newton Process Mfg. Co. S-31
New York Rubber Corp. 200
Nicholson, W. H., & Co. S-24
Norris Brothers, Inc.
Norris, W. C.
North American Car Corp.
Northern Pump Co.
Norval & Dial, Inc. S-35
Novo Engine Co. 111
Nuttall, R. D., Co.
Nye Tool & Machine Works 7

O

Oakite Products, Inc. 161
O'Brien Steel Construction Co.
Ohio Injector Co., The
Oil City Iron Works, Inc.
Oil Conservation Engineering Co.
Oil Country Specialties Mfg. Co. 146
Oil Insurance Association
Oil Well Improvement Co., The
Oil Well Supply Co. 124-125
Oklahoma Contracting Co.
Oklahoma Gas & Electric Co. S-23, 183
Oklahoma Portland Cement Co. S-31
Oxweld-Acetylene Co.

P

Page, H. W., Inc.
Page Steel & Wire Co.
Paige & Jones Chemical Co., Inc.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co. 121
Parsons Co., The
Patrick, R. S. 199
Patterson-Ballagh Corp. 204
Patterson-Sargent Co., The S-24
Patterson Steel Co. S-13
Pattin Brothers Co. 60-61
Penberthy Injector Co.
Petroleum Appliance Co.
Petroleum Iron Works Co.
Pforzheimer, Carl H., & Co.
Philadelphia Gear Works
Phillips Petroleum Co. 193
Pittsburgh-Des Moines Steel Co. 199
Pittsburgh Equitable Meter Co. 143
Pittsburgh Steel Products Co. 198
Pomona Manufacturing Co.
Powell, William, Co.
Power Piping Co. 196
Prescott Co., The 156
Prest-O-Lite Co., Inc., The
Pure Oil Co.
Pyle National Co. 203

Q

Quaker City Rubber Co.

R

Reading Iron Co.
Reading Steel Casting Co., Inc.
Refinery Supply Co., The S-31
Regan Forge & Engineering Co.
Reid, Joseph, Gas Engine Co. 114
Reo Motor Car Co.
Republic Iron & Steel Co.
Republic Supply Co. 44
R-F Electrical Mfg. Co.
Ridge Tool Co. 142
Riter-Conley Co. 204
Robinson Orifice Fitting Co. 204
Rock Island Plow Co.
Roots, P. H. & F. M., Co.
Ross-Meehan Foundries 206
Ryerson, Joseph T., & Sons, Inc. S-5A, 205

S

Safety Gas Main Stopper Co. 207
Safety Pulling Machine Co.
Shaffer, J. E., Co.
Shaffer Tool Works
Shaw, S. F.
Sheffield Steel Corp.
Sinclair Refining Co. 179
Sivyer Steel Casting Co.
Skelly Oil Co.
Skinner, M. B., Co.
Smith, A. O., Corp. 59-189
Smith Separator Co. S-10
Smooth-On Mfg. Co.
Sonner, P. J., Gas Burner Co.
Sootless Spark Plug Co.
South Chester Tube Co.
Southern Cornice Works
Southwestern Engineering Corp. 31
Spang & Co.
Spang, Chalfant & Co., Inc. 123
Standard Seamless Tube Co.
Standard Steel Works
Star Drilling Machine Co.
Staytite Co., The
Stitt Ignition Co. S-24
Stockham Pipe & Fitting Co.
Stork Engineering Co.
Strom Steel Ball Co.
Sullivan Co., The 153
Sullivan Machinery Co.
Sun Shipbuilding & Dry Dock Co.
Swartwout Co., The
Sweet, Wm. J., Foundry Co.

T

Taylor Instrument Companies S-40
Templeton, Kenley & Co., Ltd.
Texas Company, The
Texas Creosoting Co.
Texas Gulf Power Co. 151
Texas Pacific Coal & Oil Co.
Thermoid Rubber Co.
Timken Roller Bearing Co. 18
Titusville Forge Co.
Titusville Iron Works
Tnemec Paint & Oil Co. S-28
Toledo Pipe Threading Machine Co. 195
Traction Machine Co., The
Trimont Mfg. Co.
Trumble Gas Trap Co.
Tulsa Boiler & Machinery Co. S-4
Tulsa Pipe & Supply Co., Inc.
Tulsa Sheet Metal Co. S-38
Twin Disc Clutch Co.

U

United Air Cleaner Co.
United Iron Works, Inc. S-27-203
United States Industrial Diamond Corp.
Universal Oil Products Co. 39

V

Victaulic Co. of America S-33
Victor Balata & Textile Belting Co.
Vogt, Henry, Machine Co.

W

Wagner Electric Corp. 167
Wailes Dove-Hermiston Corp.
Walworth Co. 1
Warren Petroleum Co.
Washburne, Chester W. 207
Waukesha Motor Co. S-17
Westcott & Greis S-37
Westinghouse Electric & Mfg. Co.
West Texas Utilities Co.
Wheelton & Townsend, Inc.
Wheeling Steel Corp.
Wico Electric Co.
Widdell Engineering Co.
Williams, J. H., & Co.
Williamsport Wire Rope Co. 136
Williams Tool Corp. 196
Wilson Oil Tools Corp. 6
Wilson-Snyder Mfg. Co.
Wilson Welder & Metal Co., Inc.
Witte Engine Works
Wood Shovel & Tool Co., The S-36
Worthington Pump & Machinery Corp. 46
Wright, Horace
Wright Mfg. Co.

Y

Yale & Towne Mfg. Co.
Young Engine Corp.

Z

Zero Hour Torpedo Co.
Zwetsch Heinzelmann & Co. 207

The Oil and Gas Journal

PRODUCING REFINING MARKETING

VOL. 26. NO. 45 TULSA, OKLAHOMA, MARCH 29, 1928

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TABLE OF CONTENTS

SPECIAL ARTICLES

Curtailment in West Texas Important 23
By Andrew M. Rowley
Settlement of Winkler County problems would aid general situation. Sweet oil market strengthening.

Ask Royalty to Pay Transportation 25
By Special Correspondent
Winkler County association protests Roxana-Landreth proposals.

Oil Burner Association Program 25

State Backing of Conservation Urged 26
By J. L. Dwyer
Plan of J. S. Cullinan contemplates early conference of executives.

Geologists' Convention in California 27
R. S. McFarland of Tulsa elected president.

Co-operation in Increasing Demand 28
By John H. Nelson
How other industries have promoted advertising to stimulate consumption.

Oklahoma-Kansas Engineers Organize 28

Gas Conservation Aids Repressuring 29
By L. P. Stockman
California operators storing gas in old fields for future use.

To Restrict Production on Osage Tracts 29

Developments in Oil Industry Abroad 30
Specially Contributed
Shell to market at Panama. Standardization in Rumania.

Actual New Business (Editorial) 32

Largest Natural Gasoline and Gas Lift Plant 69-108

High-Pressure Natural Gas Line 119
By B. K. Smith

Wells Drilled for Hot Water in Japan 120
By E. R. Dickover
Holes carried down several hundred feet without commercial use.

Field Problems and Their Solution 128
Edited by Thomas F. Smiley

Need Co-operation to Meet Foreign Rivalry 142
By Earl Oliver

Warning Against Federal Control 149
By C. B. Ames

Government of Poland Seeks Oil Control 202
By Charles E. Kern

FIELD OPERATIONS

Texas Panhandle and North Texas 34-195
By James H. Dameron

Late Fields 36

West Texas 35-195
By James H. Dameron

Oklahoma 38
By J. L. Dwyer

Kansas 40
By J. L. Dwyer

Southwest Texas 42
By B. D. Stevenson

North Louisiana-Arkansas 45
By D. H. Bancroft

Gulf Coast 47
By Neil Williams

Mexico 47
By George Blardone

Rocky Mountain Area 49
By Tolbert R. Ingram

Canada 51
By Victor Lauriston

California 52
By L. P. Stockman

Eastern Fields 54
By D. S. Wakenight

Muskegon 54
By Special Correspondent

Kentucky-Tennessee 56
By Whit

Central West 56
By Whit

REFINING AND MARKETING

Gasoline Continues to Strengthen 24
By W. T. Ziegenhain
Practically all refinery grades advance in Oklahoma. Naturals weak.

Code of Ethics for Marketers 27
By Charles E. Kern

Fair Amount of Business at Chicago 170
By J. B. Waldo

Maintain Advance in the East 171

Advantages of Pulling Together 172
By C. L. Henderson
Refiner member tells marketers co-operation needed to meet conditions.

Brief Items for Petroleum Refiners 174

Natural Gasoline Manufacture 175

Refinery and Crude Prices 176-177

Tank Wagon Quotations 178

Technical Questions Answered 188
By Dr. C. K. Francis

Economies From Refinery Salvage 190
By W. T. Ziegenhain
Important savings possible through utilization of old equipment.

Suggested Basis for Long-Time Contracts 190

Of Interest to Sales Departments 192

Short Talks on Refinery Products 192
By W. T. Ziegenhain

Co-operative Stations by Farmers 192
By Charles E. Kern

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 21

Natural Gas Developments 58

Men Known in Oildom and Personals 62

Equipment and Supplies 65

Classified Want Advertisements 168-169

Oil Securities Showing Improvement 180

Crude Petroleum Statistics 208

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Refinery Section Starts on Page 170

Curtailment in West Texas Important

Highest daily average estimated total production in 1927, week ended July 30, 2,587,105 bbls. Lowest in 1927, Jan. 22, 2,360,789 bbls.

Settlement of Winkler County Problems Would Aid General Situation. Sweet Oil Market Strengthening

By Andrew M. Rowley

Highest daily average estimated light oil production in 1927, week ended July 30, 2,102,385 bbls. Lowest in 1927, Jan. 1, 1,790,729 bbls.

With the Hendricks Pool in Winkler County, West Texas, producing more than 200,000 barrels daily early this week, the petroleum industry elsewhere is more or less marking time while waiting the outcome of efforts being made to effect a satisfactory agreement which would tend to hold the output there more nearly to facilities for handling it. While only approximately 250,000 barrels daily of West Texas production is reaching market, the psychological effect of the enormous potential production is depressing to the general situation.

Curtailment movements in other sections of the country are meeting with greater success than many operators had anticipated and it is felt problems handicapping a quick settlement of the Winkler County situation will be ironed out soon with the help of the State of Texas. The crude price structure relating to West Texas crude is rather weak at the best and this fact doubtless will have a bearing in the consideration of the situation in that area.

Continued decline in production from the greater Seminole area in Oklahoma is strengthening the "sweet" crude oil market and it is felt further decreases in output of this quality of crude together with the increased demand will necessitate higher prices as operators will be unable to maintain present production at existing prices.

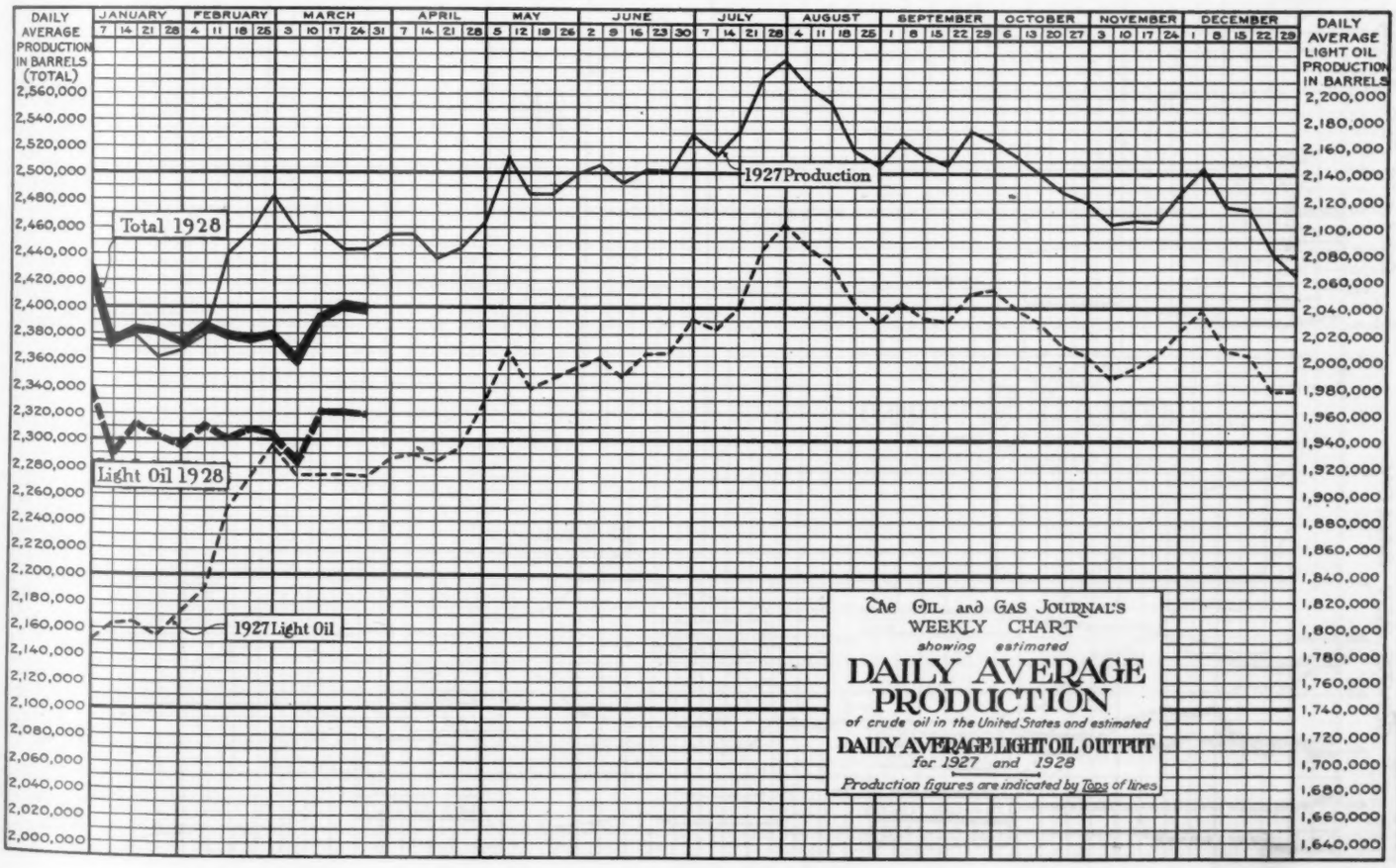
The Long Beach Field in California has started its upward climb with indications increases in production from the Pacific Coast may be expected until early summer at least, despite the curtailment movement there. The completion of a big high gravity producer from the Trinity sand in the Cotton Valley Field in Louisiana and the opening of a new pool in Fort Bend County, of the Texas Gulf Coast were other interesting developments of the week.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended March 24 and a comparison with the previous week follows:

	March 24		March 17	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	14,730	.....	14,715	.....
Burbank	41,960	.....	44,160	.....
Other Osage Fields	30,210	.....	30,140	.....
Cushing and Shamrock	21,085	.....	21,145	.....
Bristow	24,655	.....	24,735	.....
Seminole	293,945	.....	300,520	.....
Northern Miscellaneous	159,245	.....	158,310	.....
Southern Fields	58,415	.....	58,170	.....
Total Oklahoma	644,245	.....	651,895	.....
West Texas—				
Hendricks	179,359	.....	182,681	.....
Yates	45,905	.....	45,857	.....
Remainder	118,930	.....	117,514	.....
Total West Texas	344,194	.....	346,052	.....
North Louisiana	36,165	7,820	36,895	7,870
Arkansas	19,870	65,450	20,125	65,770
North Central Texas	130,002	.....	128,313	.....
Texas Panhandle	71,260	.....	71,320	.....
East Central Texas	23,896	.....	24,219	.....
Kansas	111,370	.....	110,345	.....
Total Mid-Continent Area	1,381,002	73,270	1,389,164	73,640
Gulf Coast	.....	123,020	.....	124,858
Southwest Texas	.....	26,990	.....	27,019
Eastern	102,000	.....	103,000	.....
Rocky Mountain Area	80,481	.....	80,600	.....
California—				
Santa Fe Springs	37,500	.....	37,500	.....
Long Beach	124,500	.....	120,000	.....
Torrance	2,000	17,000	2,000	17,000
Huntington Beach	57,500	.....	57,500	.....
Dominguez	12,500	.....	12,500	.....
Inglewood	18,000	11,000	18,000	11,500
Ventura Avenue	47,000	.....	45,000	.....
Seal Beach	39,500	.....	39,500	.....
Remainder of State	60,000	188,000	60,000	185,000
Total California	398,500	216,000	392,000	213,500
Total United States	1,961,983	439,280	1,964,764	439,017
Grand Total	2,401,263		2,403,781	

Total Decrease, 2,518 Bbls.; Light Oil Decrease, 2,781 Bbls.



Gasolines Continue to Strengthen

Practically All Refinery Grades Advance in Oklahoma. Natural Gasolines Weak and Prices Lower. Fuel Oils Firm

By W. T. Ziegenhain

Continued strengthening of the Oklahoma refinery market during the past week has created a rush in the spot buying of refinery gasolines by jobbers who are finding an unusually large increase in the consumption coming at a time when their stocks are low. Natural gasolines, on the contrary, found a very slow moving market and price concessions were offered in many cases to keep manufacturers from adding to the already heavy stocks.

Kerosene shared in the increased activity and prices were advanced by most companies. Fuel oils remained very stable and refiners are well protected on their production for the next few weeks. The expected slump in fuel prices is not expected to materialize as was predicted after low-gravity crudes were reduced in price on February 21.

Gas oil continues to be traded at the same price, but is due for an advance as gasoline prices continue to advance. Refiners are not yet able to show a profit from running purchased gas oil after paying the freight costs of from 1 to 2 cents per gallon. For that reason the spot gas oil market has not shown unusual activity. Large stocks of gas oil are being held by many refiners who will draw on these before attempting to purchase supplies on the outside. However, this program places a higher value on gas oil even though it is not immediately reflected in the spot prices.

Lubricants moved better the past week, but can not be said to be strong. Bright stock continues to be offered at very low prices and export purchases in large quantities are not able to stabilize the market.

Wax inquiries have shown this product to be very popular and prices have been advanced. Several refiners have sold their April production and are holding attractive offers for additional orders.

REFINED MARKET BAROMETER

Higher prices for refined oils, supported by a good demand, summarized the developments in the general market over the last week. Gasoline consumption increased particularly well and with the retail price structure in the best position it has been for many months, higher tank car prices seem assured. The only weakness in the entire structure is in California, where some very low station prices are still in evidence. Natural gasolines were the exception in the general market advance, and fractional reductions were made in the Mid-Continent prices. Fuels remained unchanged in price, but weakened in California. The balance of the products remained firm in all sections.

Mid-Continent—All grades of gasoline moved at a satisfactory rate, and the higher prices were well supported. Kerosene was stronger and more active. Natural gasoline moved slowly and additional price reductions were made. Other oils were firm with prices unchanged. Wax was unusually strong.

Atlantic Seaboard—A strong demand for practically all refinery products supported the optimism being displayed in the eastern refined oil market, and prices are expected to advance over next week. The retail market for gasoline has shown unusual stability, and this is taken as a most favorable factor in the belief that higher prices will be supported.

Chicago—U. S. Motor gasoline enjoyed an excellent movement. Kerosene was more actively traded, also. Fuel oils showed marked stability even though large quantities of the material was being moved into the Chicago area. The balance of the oils remained firm with but few price changes made over the week.

Gulf Coast—Gasolines were in greater demand, and the recent removal of large quantities of lubricants to foreign points has allowed the domestic market to strengthen.

Pennsylvania—The gasoline and naphtha movement improved, and quotations were expected to advance over next week. The balance of the oils showed greater activity and prices were firm, with the exception of bright stocks, which continue to be offered in large quantities even though the consumption has been improved.

California—Gasolines strengthened as the demand increased, but the retail prices will have to be adjusted before higher prices will be supported. Fuel continues very weak, and lower prices are expected to result in the near future.

Gasoline Situation

While sales managers are optimistic regarding the outlook for refined prices over the next few months, they are generally agreed that advances will be slow in materializing and can not be expected to go more than fractionally higher without a general crude advance. An improved retail market structure throughout the entire country has justified improved refinery gasoline prices and in general these prices advances have yielded a higher revenue than the advance posted on the higher gravity crudes.

Likewise, the stability of the fuel market following the posting of reduced crude prices on the heavier gravity oil has established the entire list of refinery products on a firm basis.

Because of this, crude prices would be expected to advance the same amount for all gravities and some refiners are predicting a 25-cent advance on all grades within the next month with gasoline prices going to 7½ cents as a result.

While this is but a matter of conjecture at best, it emphasizes that a crude advance will be needed to get prices up to where they may be compared with normal prices in the past. A 25-cent advance in crude will justify a 1-cent advance in refinery gasoline prices based on the fact that approximately 50 per cent gasoline is made from each barrel of crude in the Mid-Continent. This amounts to 21 gallons per barrel and with a 1-cent advance in the gasoline

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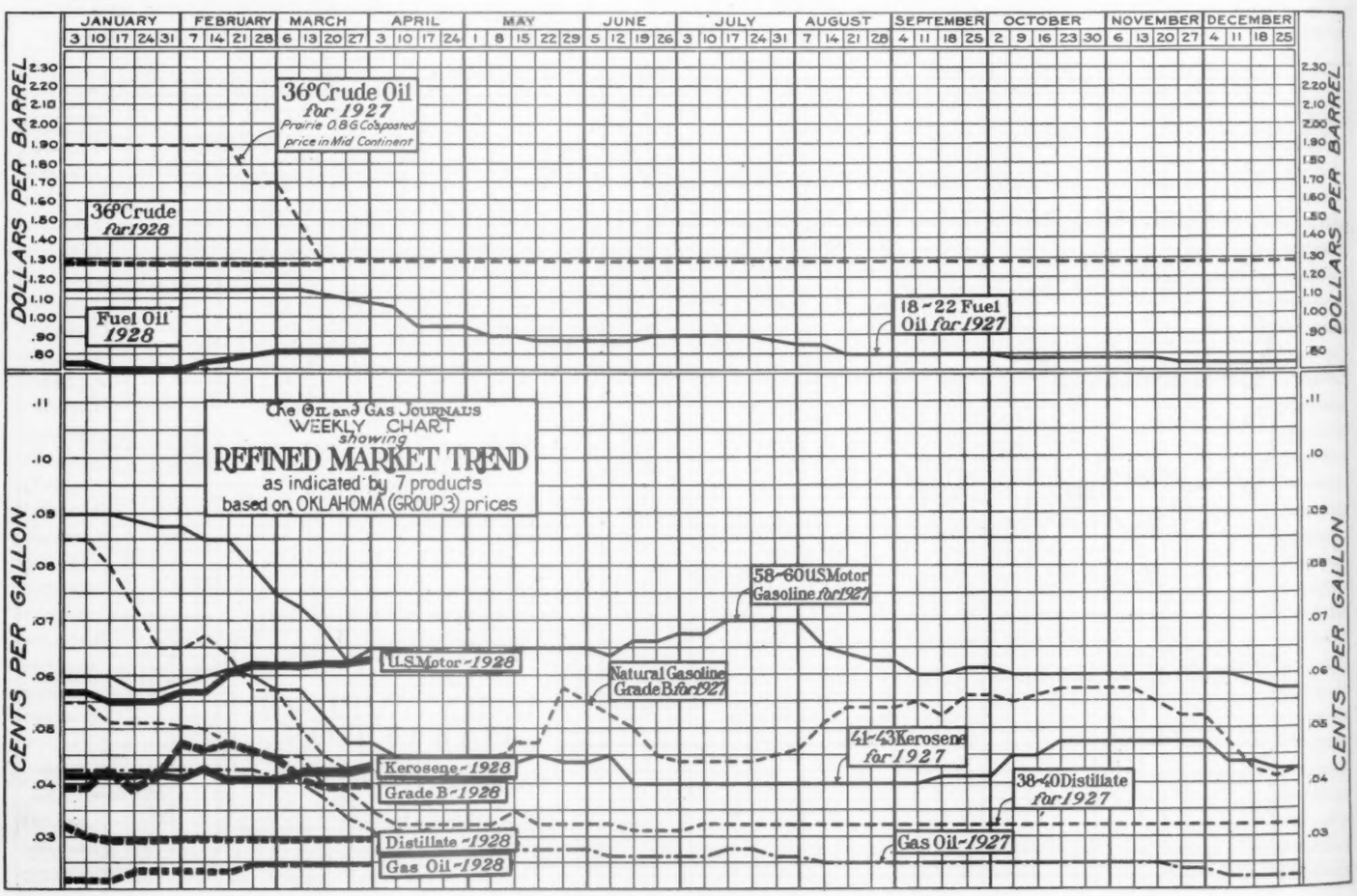


Ask Royalty to Pay Transportation

Winkler County Association Protests Proposal From Roxana and Landreth Companies on Carrying Charges

By Special Correspondent

Announcement was made in Tulsa on Tuesday of this week that, owing to changed conditions, the Roxana Petroleum Corp. now finds its way clear to handle West Texas crude at the regularly posted price and that its action in asking royalty owners to pay 10 cents a barrel transportation charges has been rescinded.

SAN ANGELO, Tex., Mar. 26.—Refusal by a number of royalty owners in Winkler County to accept a 10-cent per barrel cut in royalty oil by Roxana Petroleum Corp. and Landreth Production Co. to cover pipe line transportation, and the resultant organization of the Winkler County Royalty Owners' Association, apparently has set the stage for a new legal battle in West Texas over petroleum. No developments have been reported since members of the association individually notified Roxana and Landreth that they will expect royalty payments to continue on the posted market price, now 60 cents a barrel.

The purposes of the Winkler County Royalty Owners Association are broader in scope than the contesting of the 10-cent reduction, being also to obtain so far as is possible an equitable assessment of taxes, based on legal and correct principles, as shown by the articles of the association drawn up at Midland when the organization was perfected.

Text of Notice

The following notice from Roxana, under date of February 20, to owners of royalties under producing leases of the company in Winkler County, explains the operators' position:

"We are unable to sell the crude oil production in the field," said the letter signed by A. Wade Schwitalla, of the Roxana crude and sales department at Tulsa, "and have therefore found it necessary to construct a pipe line from the field to loading racks adjoining the Texas & Pacific Railroad Co. tracks at Monahans and the tracks of the Kansas City, Mexico & Orient Railway at McCamey, and to build loading racks adjoining said railroad tracks for the purpose of loading the oil into tank cars for shipment.

"The oil, however, cannot be concurrently sold at the loading racks or in the tank cars for more than the posted price in the field; that is, 60 cents per barrel. In other words, in selling the oil we cannot add to the posted price in the field the cost of transportation from the field to the loading racks at Monahans and McCamey. We can only obtain a price equal to the posted price in the field. The cost of transportation and loading amounts to approximately 10 cents per barrel.

"We, therefore, find it impossible to purchase from royalty owners at the posted market price in the field for the reason that on current sales we can only obtain that price after transportation by pipe line to the loading racks at Monahans and McCamey. In making all payments to royalty owners for this oil, if purchased by us, we find it necessary therefore to deduct from the posted price the cost of transportation to such loading racks and loading into tank cars. This is simply a reimbursement to us of the cost of transportation and loading.

"The price thus fixed for crude oil in the field will be the current posted price of the Southern Crude Oil Purchasing Co. less 10 cents a barrel to cover the cost of transportation to the loading racks and loading into tank cars.

"Royalty owners, of course, have the right to dispose of their royalty oil as they see fit, and are not under any obligation to sell their royalty oil to us. We are ready to purchase it, however, upon the above basis.

"Royalty owners who desire us to purchase their royalty oil will please sign and return to us the enclosed division order. Such royalty owners as desire to make other disposition of their oil; that is, to sell to other purchasers or run into storage provided by such royalty owners, will please notify us as to what disposition they desire made of their oil and furnish us with the name of the pipe line company which is to run the same.

"This notice and the terms upon which we will purchase royalty oil, as herein set out, will become effective on February 20, 1928, and will continue in effect until further notice. Any division order heretofore filed with us by royalty owners will cease to be effective on said date and we should be furnished with division orders on the form herewith enclosed or with instructions as to the disposition made of royalty oil by all royalty owners on or before said date."

Protested by Royalty Owners

The notice was signed by A. Wade Schwitalla, crude and sales department of the Roxana at Tulsa. Some of the royalty owners say the notice reached them as late as a week after the date on which the new division became effective. The royalty owners construe the lease contracts as making it incumbent upon the producing companies to deliver their part of the oil, free of cost, to them in the pipe line. A carrying charge, they say, is unprecedented. The following extract from a letter by M. A. Grisham, vice president of the Grisham-Hunter Corp. of Abilene, to Roxana, is typical of letters sent by the royalty owners and summarizes their position:

"This letter is to advise you that we will expect you to pay us the posted market price for all oil produced and run by you from any lease under which we own minerals. The posted price at this date (March 2) is 60 cents per barrel. We are not insisting that you produce the oil at the present time; we would much prefer that the lease be not developed under present market conditions. We realize, however, that we have no control over this situation, but if you produce the oil, regardless of our wishes, and run it off the lease, we will, of course, expect prompt settlement at the posted market price.

"If you are dissatisfied with your lease contract, and find it burdensome to comply with the terms thereof, it is agreeable to us for you to release such contract.

"Please advise us at your earliest convenience of the attitude you propose to assume in this matter. We would much prefer that you carry out your lease contract according to the terms thereof, but if for any reason you do not choose to do so, we must necessarily take proper steps to protect our interest.

"Our legal department advises that should we sign your division order and pay our proportionate part of the cost of your pipe line, that we would be entitled to our proportionate ownership in said pipe line; but we do not care to become a partner in an enterprise over which we have no control."

Somewhat the same situation as exists in Winkler County applies to producing leases by Roxana and Landreth elsewhere, it is presumed from a telegram by G. S. Anderson of Fort Worth to E. G. Bedford of Midland, first vice president of the Winkler County Royalty Owners' Association, advising that Landreth has assessed against him a storage charge of 5 cents a barrel per month on royalty oil, which he has declined to pay.

San Angelo owners of Winkler County producing royalties affected by the Roxana and Landreth 10-cent reduction include Henshaw Oil Corp., Northrup & Carr, Preston G. Northrup and Robert G. Carr, individually, Western Oil & Royalty Co., M. D. Bryant, Peerless Oil & Gas Co., and H. O'Bannon, trustee.

Officers Elected

Officers of the Winkler County Royalty Owners' Association elected at Midland are: President, T. G. Hendricks, Odessa; first vice president, E. G. Bedford, Midland; second vice president, T. F. Grisham, Abilene; third vice president, M. S. Goldman, San Angelo; treasurer, L. H. Dail, Midland; temporary secretary, Patrick Hill, Midland; advisory board, Harley R. Hinton, Big Spring, and P. A. Bellard and Patrick Hill, both of Midland. The membership committee selected is composed of M. S. Goldman, T. F. Grisham, Fred E. Guthrie of Big Spring, H. B. Rouse of Dallas, R. P. Rankin of Midland and E. C. Cannon of Odessa.

The secretary was instructed to write letters to Roxana and Landreth explaining the attitude of the association, and each member of the association was requested to write similar letters to the same companies to the same effect and tenor. The association earlier in the meeting adopted the report of a committee consisting of E. G. Bedford, E. C. Cannon, Harley Hinton and T. F. Gisham, recommending that the association heartily approve the stand already taken by the Grisham-Hunter Corp. in its letters to Roxana and Landreth, that each member write similar letters to those companies, and that the secretary notify all members, requesting their fullest cooperation by each sending Roxana and Landreth notice of cancellation of the division order contracts heretofore entered into, these not to affect valid sale contracts previously signed.

The membership fee was placed at $10 per annum, to provide a working fund to pay expenses incurred in promoting the interest of the association and in obtaining and circulating data and information. The members pledge themselves to pay all necessary and proper expenses incident to the organization on a pro-rata basis according to the interest involved.

OIL BURNER ASSOCIATION TO MEET NEXT WEEK IN CHICAGO

Up-to-date developments in the design of oil burners coupled with the latest ideas in sales methods will be discussed at the fifth annual meeting of the American Oil Burner Association, which will be held at the Hotel Stevens, Chicago, April 3, 4 and 5. The convention will be the most important ever held by the association, which has had a rapid growth during the past year.

On Monday, April 2, a meeting of the executive committee of the Oil Heating Institute will be held. The institute is a branch of the association. During the past year it has been carrying on a national advertising program which is aimed to acquaint the public with the advantage of oil heating.

Following is the program for the convention:

MONDAY, APRIL 2

Morning

9 to 12 m.—Oil Heating Institute executive meeting. Private dining room No. 2.

10 to 12 m.—Committee meetings.

1 to 5 p. m.—Those who arrive Monday may register.

TUESDAY, April 3

Morning

8 a. m.—Registration and renewing acquaintances and friendships—Stair lobby to Exposition Hall.

8 to 10 a. m.—Breakfast meeting of Board of Directors. Private dining room No. 4.

9 a. m.—Opening of Exposition Hall.

9 to 12 m.—Committee meetings.

Afternoon

2 p. m.—General meeting—Grand ballroom. Opening address by the president, Lionel L. Jacobs.

2:30 p. m.—Speaker and subject to be announced.*

3 p. m.—"Co-operation Between Central Station Companies and the Oil Heating Industry," by Charles K. Nichols, New York Edison Co.

3:30 p. m.—"Robots Burning the Midnight Oil," by F. Paul Anderson, dean College of Engineering, University of Kentucky and past president of the American Society of Heating and Ventilating Engineers.

4 p. m. Speaker and subject to be announced.*

5 p. m.—Annual business meeting—South ballroom. Open to members only.

Evening

6:30 p. m.—Opening—Grand ballroom.

7 p. m.—Bureau of Mines motion picture, "The Story of Petroleum"—Grand ballroom.

9 p. m.—Chicago Night entertainment—Grand ballroom. The Chicago Oil Burner Association will act as hosts to the out-of-town visitors, including the wives and families of those attending, at a special entertainment in the Grand ballroom.

WEDNESDAY, APRIL 4

Morning

9 a. m.—Exposition hall open.

9 to 10 a. m.—Meeting of Board of Governors, dealer division—Private dining room No. 6.

10 to 12 m.—Meeting of Board of Directors—Private dining room No. 4.

Afternoon

1:30 p. m.—Official convention photograph.

Manufacturers' Session—South Ballroom
Subject—"Engineering"

2 p. m.—Opening remarks by chairman, W. C. McTarnahan, president Petroleum Heat and Power Co.

2:30 p. m.—"Are We Making Progress in Fundamental Engineering," by Han Kunitz.

3 p. m.—"What Competition May We Expect From Other Fuels," by A. E. MacInnis, president Preferred Oil Burners, Inc.

3:30 p. m.—Speaker and subject to be announced.*

4 p. m.—Speaker and subject to be announced.*

4:30 p. m.—Speaker and subject to be announced.*

Dealers' Session—North Ballroom
Subject—"Sales"

2 p. m.—Opening remarks by chairman,

(Continued on Page 185)

COLLINS LEAVES MARLAND

Samuel C. Collins, vice president in charge of sales of the Marland Oil Co. has announced his resignation, effective May 1.

State Backing in Conservation Urged

Plan of J. S. Cullinan Contemplates Early Conference of Executives of Texas, Oklahoma and California

By J. L. Dwyer

A meeting of the Oklahoma-Kansas section of the Mid-Continent Oil & Gas Association held last Friday in Tulsa, resulted in the adoption of a resolution which is believed to contain the initiatory steps necessary towards true conservation. The resolution called for the appointment of a committee of five members to handle any production which may be the result of wildcat wells now drilling and to operate along the lines of the Seminole advisory committee. It was thought that this committee should have a separate identity from the Seminole committee.

Another interesting aspect of the meeting was the presence of J. S. Cullinan of Houston, Tex., who addressed the meeting, and presented his plan for the remedying of the present overproduction of petroleum in the nation.

Mr. Cullinan presented a picturesque figure as he stood in the splendid vigor of his 72 years and mentioned events which happened in the oil industry at various stages since 1878, the year in which he first became identified with the business. He remarked that at the time of his introduction to petroleum, the annual output was comparable to one day's production under the present rate, and stated that for the past five years, the industry had steadily been going in one direction, downwards. Mr. Cullinan stated that in his opinion if the nation's daily output was not subjected to a curb, it would only be a matter of a comparatively short time until the fields would be producing 3,600,000 bbls. daily.

Mr. Cullinan's plan

As a remedy to this possibility, he suggested the accompanying plan and requested that a meeting of the governors, attorneys-general and chairmen of the Corporation Commissions of Oklahoma, Texas and California be arranged, in order to obtain their assistance and also the assistance of the Federal Government in recommending such legislative changes as may be necessary for the promulgation of the production plan. He also pointed out that the present antitrust laws of the State of Texas are very drastic, and that under them, the county attorney of any single county in the State could invoke them for action upon the plea of any single small royalty owner who happened to be a resident of that county. He claimed that this action would immediately break up any curtailment plan, and compel the producer to flow his wells at full capacity.

After presenting the plan, Mr. Cullinan invited discussion of its application by those present. When questioned by James A. Veasey, chief counsel of the Carter Oil Co., as to whether or not the conference of officials would include any petroleum executives who might explain in detail the difficulties which now beset the industry, Mr. Cullinan stated that he assumed that the officials would invite to the conference those who were adequately informed of petroleum conditions.

The Cullinan plan was referred by Acting President Herndon to the executive committee.

In the early discussion of the meeting, W. N. Davis, president of the Mid-Continent Oil & Gas Association, stated that he had very definite convictions that any movement serving for restraint of production such as was experienced in the Greater Seminole area should be fostered as broadly as possible, and that it should have the support of the entire association.

The resolution calling for the appointment of a committee was made by R. F. MacArthur, vice president of the Barnsdall Oil Co., and a member of the Seminole operators' advisory committee. He stated that in his opinion, a serious condition prevailed in the industry unless a remedy could be applied, and he believed that the power of correction for its ills lay within the industry's own grasp.

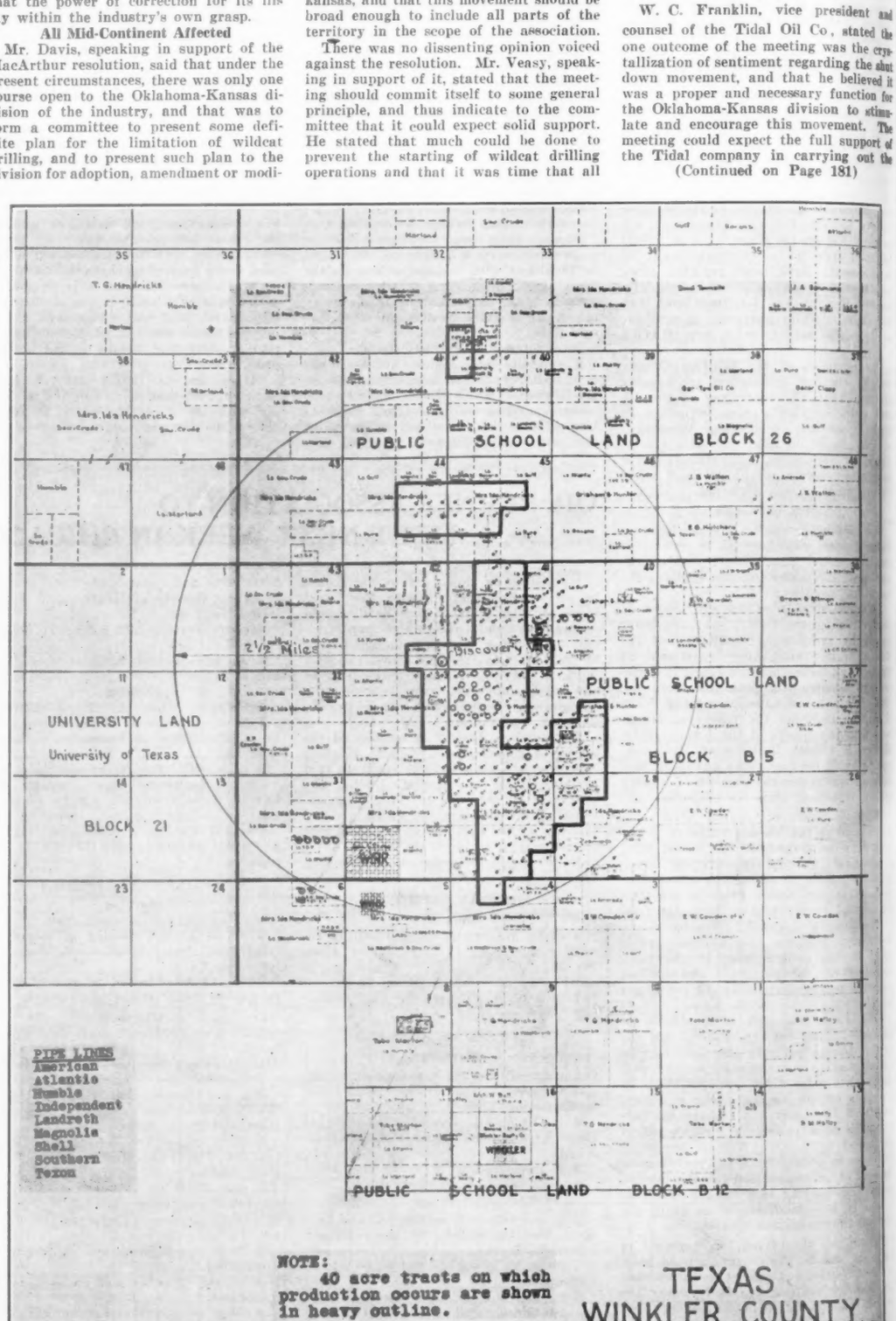
All Mid-Continent Affected

Mr. Davis, speaking in support of the MacArthur resolution, said that under the present circumstances, there was only one course open to the Oklahoma-Kansas division of the industry, and that was to form a committee to present some definite plan for the limitation of wildcat drilling, and to present such plan to the division for adoption, amendment or modification at a future meeting. He said that other parts of the Mid-Continent territory have problems, Louisiana and Arkansas, and that this movement should be broad enough to include all parts of the territory in the scope of the association.

There was no dissenting opinion voiced against the resolution. Mr. Veasy, speaking in support of it, stated that the meeting should commit itself to some general principle, and thus indicate to the committee that it could expect solid support. He stated that much could be done to prevent the starting of wildcat drilling operations and that it was time that all connected with the industry recognized they were in the same boat and that what happened to one would affect all.

W. C. Franklin, vice president and counsel of the Tidal Oil Co., stated the one outcome of the meeting was the crystallization of sentiment regarding the shut down movement, and that he believed it was a proper and necessary function for the Oklahoma-Kansas division to stimulate and encourage this movement. The meeting could expect the full support of the Tidal company in carrying out the

(Continued on Page 181)



Geologists Hold Important Sessions

Los Angeles Dam May Have Been Located on a Fault. R. S. McFarland of Tulsa Elected President

LOS ANGELES, Calif., Mar. 26.—The American Association of Petroleum Geologists closed its thirteenth annual convention and second California session with a golf tournament at the Santa Monica Riviera Country Club yesterday, a large number of ardent devotees lining up for the final festivities. William Winham, an employe of Standard Oil Co. at Bakersfield, Calif., was low man, but the name of Don Danvers of Corsicana, Tex., next in line, will be engraved upon the silver punch bowl trophy donated by J. Wallace Bostick of Dallas, Tex., as the former was not an active member of the association.

The members of the association and their wives journeyed to Los Angeles at the conclusion of the technical sessions held in San Francisco, some going by boat and others by rail. The delegates were provided with transportation facilities immediately upon arrival in Los Angeles on Saturday, and the entire party departed for an inspection trip which took them to practically all of the major

John E. Elliott

fields in Los Angeles Basin. The party stopped for luncheon at Palos Verdes, south of the Redondo Field, and concluded this observation tour shortly after 5 o'clock.

A dinner dance and an excellent vaudeville entertainment at the motion picture studios climaxed a very interesting and important convention and the golfers brought it to a final close by doing their stuff Sunday. Practically all of the eastern members left Los Angeles Monday morning, although a few remained over in order to make a personal trip up through the San Joaquin Valley.

Election of Officers

At the San Francisco session the following officers were elected: President, R. S. McFarland, secretary and head of the land and geological department, Twin State Oil Co., Tulsa; first vice president, J. E. "Brick" Elliott of the Elliott Core Drilling Co., Los Angeles, Calif.; second vice president in charge of finance, David Donoghue, Texas Pacific Coal & Oil Co., Fort Worth, Tex.; third vice president in charge of editorial work, John L. Rich, Ottawa, Kans., re-elected. (Portrait and brief biographical sketch of the new president, R. S. McFarland, will be found on page 62.)

Technical sessions of the convention held in San Francisco were brought to a close Friday afternoon when visiting members boarded a special train for Los Angeles to inspect oil fields of southern California. Attendance at convention, while not as large as at some recent meetings, was very satisfactory considering that a majority of members of association live in the Mid-Continent territory.

Actual business of the convention began Wednesday morning when the meeting was called to order in the Native Sons Auditorium, San Francisco, by President G. C. Gester, who introduced Mark L. Requa, former Federal Oil Administrator, to deliver the address of welcome. Mr. Requa reviewed the growth of the mineral industry in the past few years and severely scored recent attempts to bring about federal control of the oil industry. He said he realized there is considerable waste in present methods of production and disposal but urged that the industry be left free to work out its own destiny.

"I have no sympathy with recently expressed idea of governmental control," declared Mr. Requa. "The governmental policy should demand efficiency in production, manufacture and distribution of mineral raw materials but we must not go in the direction of unwise governmental control."

Interesting Papers

Austin Cadle of San Francisco opened presentation of technical papers with a concise review of the California oil industry in 1927. He was followed by K. C. Heald of Pittsburgh, who pointed out recent developments in research work and stressed the importance of its continuance.

Mid-Continent members were especially interested in the discussion by John Rich, Ottawa, Kans., on the origin and migration of oil. Doctor Rich is the association editor and an authority on the shoestring sands of Kansas. Several papers dealing with experiments in flowage pressures, compaction and sedimentary deposition were presented by Dr. F. M VanTuyl of Golden, Colo., and his associates.

Thursday's technical papers included one on Jamin action by Stanley C. Herold; an interesting exposition of the use of airplane photographs in geological work by Walter A. English and geologic discussions of areas in West Texas, Oklahoma and the Rocky Mountain area. The session concluded with a very timely presentation by Harry Johnson of Los Angeles, of geological conditions in the vicinity of recently wrecked St. Francis Dam. Mr. Johnson stated emphatically that no one at this time should permit himself to fix the cause of the failure of the dam but believed that the public has a right to learn true facts upon which ultimate determinations must be based.

Evidence of Fault

He pointed out that the course of San Francisquito Creek for a distance of about 7 miles coincides with the position of a definite, though supposedly, inactive fault. The wide swath cut along the creek by flood waters has cleaned the bottom and sides of the canyon and offers clear-cut evidence of structural conditions. Directly beneath where the northwest half of the great dam stood, the clearly marked truncated plane of the San Francisquito fault is revealed. The

David Donoghue

southeastern end of the dam rested against ancient schists while the northwestern end rested upon and against younger conglomerates and sandstones faulted against schists. The plane of dislocation passes directly beneath the dam and approximately at right angles to the long axis of the dam and somewhat northwest of the center of the structure. There is no evidence of any recent slippage along the fault but it is not only a line of weakness but a possible channel for percolating waters. It is clear that the northwest part of the dam went out first which indicates that the northwest wall of canyon was of less inherent strength and more permeable to water.

Urges Geological Advice

Mr. Johnson did not care to discuss moisture in rocks and soil on the downstream side nor of caulked fractures in the dam nor of landslides both above and below the dam on the southeast side although these conditions may all have had their part in the disaster. He emphasized the importance of employing com-

(Continued on Page 187)

CODE OF ETHICS FOR MARKETERS APPROVED BY TRADE COMMISSION

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Mar. 24.—The Federal Trade Commission has approved a code of ethics as a guide to the retail oil trade. These rules were formulated by a trade practice conference by the petroleum industry of Virginia, under the auspices of the Federal Trade Commission. They have now been accepted by the Federal Trade Commission as embodying correct practices.

As announced by the commission, rules of conduct approved by the commission are included in Group 1 as follows:

Rule 1 (formerly Rule 5) Loaning or Furnishing Equipment—Gasoline pumps and tanks and motor oil outfits may be loaned or leased for the exclusive storage and handling of the products of the lender, but the borrower shall not be prohibited from handling in other equipment the products of another supplier. The borrower or lessee shall be required to pay at the time of the installation of loaned equipment, and shall pay as, or when, due all privileged taxes attaching because of the installation or maintenance of such equipment.

A lender of such equipment shall neither extend credit to a borrower for installation costs, nor advance money to a borrower to cover payment of privileged taxes, or any other expense, in any manner related to the installation or maintenance of loaned equipment.

Wholesalers shall not construct for retailers any driveways, canopies, sheds, greasing pits, building or other structure, do painting other than signs, make improvements to existing structures or facilities, nor furnish or loan air compressors, greasing lifts or racks, or other thing of value except gasoline pumps and tanks and motor oil outfits, nor loan money for the same.

Posting Prices

Rule 2 (formerly Rule 6) Wholesale Prices—All refiners, distributors, jobbers and wholesalers making tank wagon deliveries shall post conspicuously at each place from which such deliveries are made the price for gasoline and kerosene delivered by tank wagon. All gasoline and kerosene sold shall be sold at the posted price, except as provided in Clause 11 hereof. The wholesaler shall not allow or grant any rebate, concession or discount from the posted prices to any customer, or class of customers, on any ground.

Rule 3 (formerly Rule 8) Consignments, Commissions and Compensation to Dealers—Refiners, distributors, jobbers and/or wholesalers shall neither consign, gasoline, kerosene and/or motor oils to retail dealers for resale by said dealers, nor pay to retail dealers other than legitimate employes, any commission or compensation for the sale of their products.

Rule 4 (formerly Rule 9) Leases and Licenses—When refiners, distributors, jobbers and wholesalers acquire leases of service or filling station sites, such stations or sites shall not be subleased, or the operation thereof licensed for a rental or charge less than that paid by such refiners, distributors, jobbers or wholesalers and 10 per cent per annum of the value of any improvements other than pumps, tanks and motor oil outfits placed thereon by such refiners, distributors, jobbers or wholesalers, provided, however, that when the value of the site for service station or filling station purposes has decreased below that existing when the lease was taken the rental or charge therefor to the sublessee or licensee may be reduced proportionately to the decrease in the value of the site for service or filling station purposes.

Nothing in this clause shall be construed as affecting or abrogating existing contracts wherein neither party has the right to cancel the same on notice. It shall apply to all contracts, leases, subleases and licenses wherein either or all parties have the right to cancel the same upon notice, and to all such made after the adoption hereof, and to all renewals of existing contracts, leases, subleases and licenses.

(Rule 5 (formerly Rule 13) Interference With Existing Contracts—No refiner, distributor, jobber or wholesaler shall knowingly induce, attempt to induce, or assist a party to break an existing, lawful contract for the sale of petroleum products between that party and another when said contract is for a cer-

(Continued on Page 185)

JOSEPH SEEP VERY LOW

OIL CITY, Pa., Mar. 27.—The condition of Joseph Seep, whose death has been expected ever since Friday, continued very low at his home in Titusville today.

Co-Operation in Increasing Demand

How Other Large Industries Have Successfully Promoted Advertising Campaigns to Stimulate Consumption of Their Products

By John H. Nelson

The oil industry occupies a unique position in the commercial world in that the markets for its major products have been provided almost entirely by the unassisted and natural growth of independent industries such as the automotive, machinery, shipbuilding and others.

The twentieth century phenomenon of the development of the internal combustion motor alone with its everyday use has required the major attention of the disassociated petroleum industry to supply its necessary fuel, gasoline.

Kerosene, the original petroleum product of common use, has been largely displaced by electricity and gas for lighting and heating purposes.

Fuel and gas oil have an almost constantly increasing consumption but little appreciation in value due to their increasing production which progressively equalizes any enhanced values due to this increased demand.

Wax, asphalt, coke and other major petroleum by-products are all produced in ever increasing amounts at progressively declining values per unit of production with the possible exception of asphalt. The minor by-products such as antiseptics, germicides, medicinal oils and countless others have been given casual and isolated treatment.

Co-operative regulation of oil production to the current economic demands of the entire industry is undoubtedly the outstanding development of recent years in the vast petroleum industry.

Stimulation of Consumption

Since overproduction in a great measure may be expressed in terms of underconsumption, co-operative, or group, stimulation of consumption is of equal importance.

The Oil and Gas Journal in its editorial of March 1, "How to Get More Gallonage," has pointed the way.

The trail has already been blazed by more than 47 American trade associations.

The accompanying table sets forth the salient facts of the activities of these 47 associations in 1926, according to the Periodical Publishers Association, and, in addition, the activities of six outstanding co-operative selling organizations. It is offered as a constructive suggestion to the petroleum industry.

Merchandising Problems

Inventive genius and mass production have continued to pour forth such a variety of output that industries are confronted with merchandising problems that were unthought of in the era of anti-trust legislation. "The new competition," so much discussed of late, is a bit of reality. The bankruptcy courts records have illuminating instances of its advent in the business mortalities of those industries which refused to recognize it. Competition has changed from the contest of merchant with merchant to a gigantic struggle of industry with industry for outlets, for space on the dealers' shelves and in his window displays, and for a place in the consumer's budget. In this type of competition co-operative advertising enters as a distinct force to center attention on the products of its membership without reference to any one member.

The Periodical Publishers' Association notes the following outstanding tendencies in this field:

1. Effect of co-operative advertising on practices within the industry.—It would be absurd to say that the remarkable results shown by such activities as the "Save the surface campaign," as the Society of American Florists and Ornamental Horticulturists, the Associated Tile Manufacturers, the brick associations, the Greeting Card Association, and others which have shown such marked growth, are due solely to the external effect of the association advertising. In each of these cases the industry itself has become "market minded" and has been made alive to the possibilities of creating business rather than merely "swapping customers."

Association—	Per Cent of Industry Represented	Amount Expended Annually	Assessment Basis
Aluminum Wares Association	85-90	$100,000	Shipments
American Face Brick Assn.	...	.....	.....
American Leather Producers, Inc.	94	200,000	Production (hides)
Sole Leather	...	125,000	Production
All other	...	75,000	Production
American Malleable Castings Assn.	50	40,000	Production (tonnage)
American Walnut Manufacturers Assn.	75	100,000	Shipments
Associated Knit Underwear Mfrs. of America	80	125,000	Production
Arkansas Soft Pine Bureau	[1]50	60,000	Shipments
Associated Metal Lath Manufacturers, Inc.	90	60,000-100,000	Production
Associated Tile Manufacturers	70	85,000	Shipments
Assn. of American Importers of Spanish Olives[2]	[3]90	100,000	Imports
Assn. of Hawaiian Pineapple Canners	100	400,000	Shipments
California Redwood Assn.	80	50,000-125,000	
California White and Sugar Pine Mfrs. Assn.	70	100,000	Production
Cast Iron Pipe Publicity Bureau	...	72,000	.....
Common Brick Manufacturers Assn.	70	75,000	Production
Copper and Brass Research Assn.	90	.....	Voted Annual
Cycle Trades of America, Inc.	90	.....	Production
Davenport Bed Makers of America[4]	90	73,000-139,870	Production
Florida Dense Long Leaf Pine Manufacturers	[5]50	100,000-110,000	Production
Greeting Card Assn.	75	65,000-125,000	Production
Hardwood Manufacturers Institute	...	.....	Voluntary
Hollow Building Tile Assn.	60	50,000	Production
Independent Oil Men of America	...	.....	No. of Stations
Joint Coffee Trade Publicity Committee[6]	...	360,000	Voluntary
National Assn. of Ice Industries[6]	...	60,000-65,000	Voluntary
National Electric Light Assn.	90	50,000-100,000	Appropriation from dues
National Knitted Outwear Assn.[7]	...	.....	.....
National Kraut Packers Assn.	65	40,000-50,000	Consumption Tons Cabbage cut
National Lumber Mfrs. Assn. of Chicago[8]	65	.....	.....
National Paving Brick Mfrs. Assn.	80	35,000	Production
National Terra Cotta Society	90	38,000	Prorata
Northern Hemlock and Hardwood Mfrs. Assn.	...	150,000	Shipments
Northern White Cedar Assn.	75	6,200	.....
Oak Flooring Bureau	90	100,000	Production
Plate Glass Mfrs. of America	...	82,960	.....
Portland Cement Assn.	90	500,000	Production
Red Cedar Lumber Mfrs. Assn.	95	50,000	Shipments
Rubber Assn. of America, Inc.[9]	99	56,000	Consumption
Save the Surface Campaign[10]	...	.....	Gross Sales
Sheet Steel Trade Extension Committee	72	281,129	.....
Society of American Florists and Ornamental Horticulturists	80	250,000	Dues
Southern Pine Assn.	35	250,000	Shipments
Southern Cypress Mfrs. Assn.[11]	...	.....	Production (M feet cut)
Wallpaper Manufacturers' Assn.'s Educational Campaign	90	150,000	Each Printing Machine
West Coast Lumber Trade Extension Bureau	[12]50	500,000	Production
Western Pine Manufacturers' Assn.	75	75,000	
Western Red Cedar Assn.	80	12,000	
Co-operative Selling Organizations—			
American Cranberry Exchange, Inc.	65	200,000	Sales (No. of Packages)
California Walnut Growers' Assn.	82	150,000-200,000	Sales (lbs.)
California Fruit Growers' Exchange	75	.....	
California Prune and Apricot Growers' Assn.		200,000-300,000	
Prunes	63	.....	
Apricots	57	.....	
Florida Citrus Exchange	35	250,000-300,000	
Sun-Maid Raisin Growers of California	...	540,000	

[1]Of State. [2]Figures for 1923-1925. Inactive 1926-27. [3]Volume. [4]Three-year period, 1922-1924. [5]Five-year period, 1919-1925; $1,200,000 received from Brazilian growers, $600,000 from American. Discontinued April, 1925. Brazilian growers now plan to resume under own management. [6]This sum was expended in 1922 campaign. The association is now engaged in raising $200,000 for a new national educational campaign. [7]Bureau discontinued for present. [8]Trade extension fund-raising campaign now in progress. [9]Campaign of 1922. Purpose accomplished and advertising discontinued. [10]A basis is provided for investment on the part of every branch of the industry, including manufacturers, wholesalers, retailers, and contracting painters. Manufacturers are asked to pay one-eighth of 1 per cent of gross sales. [11]Association advertising discontinued temporarily. At present carrying on group advertising among individual members. [12]Oregon and Washington.

(a) Improving quality.—It will be noted that in a large number of these cases one of the requisites to successful advertising has been the standardizing and grading of the product and the effecting of uniform and improved quality.

Much the same effect has been realized in trade practices within the industry, although these are often less tangible and harder to point out.

(b) Giving service with the advertising.—Several associations have felt that a large part of their results have come from the fact that their advertising allows them to give service to the various elements in the industry and in the distribution system, thus making for improved conditions.

Examples of this will be noted in the Tanners' Council, Copper and Brass Research Association, Sheet Steel Trade Extension Committee, and particularly among those associations having to do with construction materials.

Growth of Co-operation

2. Growth of the number within the industry participating in association activities.—Of the associations where comparison was possible, 16 show an increase over the number represented when advertising started, 16 show no change, and 4 show a decrease.

3. Effect of association advertising on the individual advertising of members.—The effects in this regard seem to fall into two classifications. Where companies within the association are large and financially strong, the advertising of individual concerns is greatly stimulated. The background created by the association advertising adds to the profitableness of their own activities.

On the other hand, where the individual companies are comparatively small and not strong enough individually to make an effective national effort, the tendency is toward pooling their resources. In cases where the national association is made up of a group of small members, each doing a local business, there is also a tendency to stimulate local group advertising.

4. Tendency toward a definite and adequate program over a period of years.—The associations starting to advertise are doing so on a larger scale, with a definite commitment for continuation over a three to five-year period. This is only logical since the advertising of most of these associations is essentially educational, and any educative process must of necessity consume time.

Continuous Campaign

Those associations which have been advertising for several years, for the most part, while still having their advertising subject to annual renewal, are building their programs with the fixed idea of continuing indefinitely. A comparison of statements made by association secretaries in this regard now and two years ago very clearly brings this out.

5. Tendency to increase advertising expenditures.—It will be noted that several of the associations previously reported have materially increased their advertising appropriation.

In the first edition of Experiences of Associations in National Advertising, issued by the Periodical Publishers' Association, New York City, of those mentioned that were then advertising, four stopped prior to January 1, 1925. Of these, however, three are now at work on plans for resuming advertising on an increased scale.

It will also be noted that the new associations for the most part started with much larger appropriations than those used by the earlier associations when they began.

OKLAHOMA-KANSAS OIL ENGINEERS ADVANCE DISTRICT ORGANIZATION

A meeting of petroleum engineers was held in Tulsa on Monday for the purpose of perfecting the organization of the Kansas-Oklahoma district of the division of development and production engineering of the American Petroleum Institute.

C. D. Watson, chairman of the Oklahoma-Kansas district, presided and Carl A. Young of Dallas, executive secretary of the division, was present in an advisory capacity. Engineers from Tulsa, Bartlesville, Ponca City and other oil centers were in attendance.

C. V. Milliken of the Amerada Petroleum Corp. was elected vice chairman and W. K. Whiteford of the Barnsdall Oil Corp., secretary, and the chairman was empowered to appoint committees to recommend district chairmen of committees on special subjects, on a program of activities and on membership.

Carl Young gave those present a line on the tentative program of the general meeting of the division at Colorado Springs on June 14-15, following the standardization meeting which will be held on June 12 and 13. One place on the program was left open and the Kansas-Oklahoma district organization was invited to suggest a speaker and topic to complete the program.

Seeking Large Membership

Technical or engineering qualifications are not necessary to membership in the division of development and production engineering of the American Petroleum Institute. Any reputable person engaged in or interested in the development and production of petroleum, who pays the special annual divisional membership dues, may enroll as a member of the division.

It is specifically urged that drilling contractors, field superintendents, foremen and others whose duties call for a practical knowledge of how to cope with problems that are constantly coming up

(Continued on Page 182)

Gas Conservation Aids Repressuring

California Operators Storing Gas in Old Fields for Future Consumption and Greater Ultimate Crude Recovery

By L. P. Stockman

It has been several years since the output of crude oil in California has dropped below 600,000 bbls. per day and while the conservation and curtailment movements under way may temporarily force state production down to around 550,000 bbls. daily, the plan to arbitrarily reduce or suspend production of heavy unrefinable crude is meeting with considerable resistance in some quarters and the ultimate outcome is still in doubt. There are two separate movements under way in California at the present time, one having the conservation of natural gas as its objective and the other a reduction in the production of heavy unrefinable crude. Both are of paramount importance and a successful conclusion of the negotiations in progress will go a long way toward stabilizing the entire situation on the Pacific Coast. The former is perhaps the most important of the two as it will be reflected in all phases of the oil industry and prove a vital factor in the general economic structure. The conservation movement under way was initiated primarily to eliminate the waste of natural gas resulting from the blowing off into the air of approximately 65,000,000 feet per day at Ventura Avenue but it has subsequently taken on a much broader aspect and it has resolved itself into one of the most important developments ever undertaken in California.

The importance of this gas conservation work is quite obvious for in addition to actually reducing waste it will appreciably increase the total ultimate recovery of crude oil as a result of a general systematic utilization of the expansive energy of natural gas. Operators in the Ventura Avenue Field have practically entirely eliminated the excess production of natural gas which was blowing into the air because of inadequate pipe line facilities and a production in excess of market requirements by pinching in a number of wells which were showing a high gas-oil ratio. Ventura Avenue is a high pressure field and the desired reduction in gas productio of 65,000,000 feet per day was effected by shutting in approximately 10,450 bbls. of light refining crude daily. In other words, approximately 6,500 feet of gas was conserved for every barrel of crude pinched in.

Using Scientific Principles

Artificial production methods consisting of scientific application of the gas lift and repressuring operations are becoming more general in California fields and while the former is perhaps the greatest single advance in recent production practice this feature will become of still more importance as a result of the comprehensive program outlined to take care of excess production of natural gas expected to result from additional development work in the Ventura Avenue Field and deep sand exploitation at Long Beach. The latter field will probably reach its peak during the summer months when commercial gas consumption is at its lowest ebb and since it is utterly impossible to effect a reduction of any kind in this district due to intensive town lot drilling the conservation committee was face to face with a serious problem. This resulted in considerable research work and it was subsequently decided to store this excess gas in other fields by making it available for repressuring work in dormant areas instead of permitting it to blow off into the atmosphere because of inadequate markets as was done at Ventura Avenue up until recently.

In order to eliminate gas waste because of excess production and the inability to regulate the output according to market requirements, practically every major operator in the State has voluntarily shut in crude oil production and increased the scope of its conservation activities. The recent curtailment at Ventura Avenue reflects the universal desire of the industry in California to eliminate waste resulting from excess gas production as operators in that field pinched in 10,450 bbls. per day of light refining crude, notwithstanding the fact that stocks of light oil have been consistently declining for over a year. The Union Oil Co. was perhaps the first California concern to undertake conservation work on a large scale, the activities of this company extending over a period of years. The Union pioneered both gas lift work and scientific repressuring in California and the company's installations at Richfield, Huntington Beach, Brea Olinda and Dominguez represent the first concerted attempt to utilize excess production of natural gas by reintroducing it back into the oil formation, both as a conservation measure and to stimulate the production of crude oil. These plants have been in constant operation for several years and the results attained have been exceptionally satisfactory. The Dominguez Field is perhaps the best example of the efficacy of general conservation work, which includes normal development and the utilization of both gas lift and repressuring and while a study would probably reveal similar favorable results in other areas the outcome of this work in this district is more evident because the total field output does not reflect a false condition resulting from the flush production of new wells due to the fact that only a limited amount of development has been undertaken during the past few years.

Repressuring at Dominguez

The Union and Shell have been experimenting at Dominguez for several years and the operations of these companies include both repressuring and gas lift work. Approximately 2,000,000,000 feet of natural gas has been injected into the producing formation of the Dominguez Field by the Union and Shell, these companies utilizing carefully selected key wells as receivers. This procedure, which is a variation of the old Marietta process, has resulted in a decidedly favorable reaction in the production curves of both companies. The Dominguez Field is an ideal reservoir for the storage of excess natural gas and this field will be utilized in handling additional surplus gas anticipated as a result of the intensive development work at Long Beach. The gas conservation committee, which has been functioning for around 60 days, recently completed a comprehensive survey which contemplates the storage of all surplus gas in a series of closely held fields and where feasible this policy will be carried out in detail. Approximately 10,000,000 feet of natural gas per day is being stored in suitable natural reservoirs in two Los Angeles Basin fields at the present time and it is the present intention to increase this to around 25,000,000 feet within the next 60 days as a result of the anticipated surplus production of natural gas at Ventura Avenue and Long Beach.

The gas conservation movement under way at the present time is probably the most important ever undertaken in California as it is comprehensive in scope and involves a number of factors instead of being limited to the operations of a few major companies. A very elaborate system has been worked out and if everything runs along smoothly there will be no further waste of natural gas as tentative arrangements have been made for the storage of any surplus which may exist, due either to excess production or decreased consumption. The plan to store surplus gas in several fields is a very commendable one as it will handle periods of peak production and assure a constant supply of gas under fairly uniform conditions. There will probably not be any excess production of natural gas at Ventura Avenue during the next few months, although the present arbitrary curtailment in that field may be terminated by any of the operators involved upon 30 days notice. Long Beach, on the other hand, will probably show a very greatly increased output during the next three or four months but this excess production will be stored and not blown off into the air, as has occurred at Ventura Avenue because of inadequate pipe lines.

Store Excess Production

The Shell, discoverer and largest single operator in the Long Beach Field, will pipe its surplus gas production over to Dominguez and inject it into the producing formation of that field. Other operators will follow a similar procedure and if the natural gas companies are faced with a surplus this excess will be given to some major natural gas company for repressuring purposes. The amount of gas delivered will be returned to the gas companies at a later date to be mutually agreed upon, although in some instances this will be optional with the producing company. The company storing this excess production of natural gas will be reimbursed for all costs encountered in introducing this dry gas into producing formations under pressure and a due allowance will be made for loss. The Standard Oil Co. is using the West Coyote Field as a storage reservoir and all excess gas from neighboring fields is being reintroduced into this closed structure which the Standard controls in its entirety. It is the Standard's intention to pipe its natural gas production from Seal Beach to Coyote Hills for storage but the Associated, Marland and Standard have recently entered into an agreement to restrict future drilling operations for another six months and this curtailment in development work may change the Standard's present tentative plans as far as Seal Beach is concerned.

The Marland Oil Co., which opened up the Seal Beach Field, has experienced considerable success in using its excess gas production to maintain the pressure in its producing wells in this field. The gas injected as a result of the Marland's repressuring work has retarded edgewater encroachment and experiments have proven that it drives out a large amount of oil which would otherwise be trapped by water and therefore unrecoverable. This is especially important as it is impossible to displace edgewater once it has intruded and the Marland will undoubtedly increase the present scope of work from time to time as this practice is most effective during the early stages. The Marland conducted a series of experiments in this field and it was found decidedly more advantageous to introduce dry gas into wells located far down on the flanks of the structure instead of utilizing producers near the apex as it is almost axiomatic that gas travels up structure during repressuring and while offsets located down structure are benefited indirectly through the retarding of edgewater encroachment there is no apparent immediate increase in production. The Marland has used pressures as high as 1,400 pounds in its repressuring work at Seal Beach and production curves of wells located within a half mile of the receivers have shown a very appreciable increase in production. Over 100,000,000 feet of dry gas has been introduced into the older section of the Seal Beach Field during the past 60 days under pressures ranging between 1,000 and 1,400 pounds. This repressuring work has boosted the Marland's production very substantially and it is estimated that this artificial stimulation has actually resulted in a production 150,000 bbls. higher than would otherwise have been secured.

Not Confined to Los Angeles

Repressuring and gas lift work is not limited to the prolific Los Angeles Basin fields although most of the installations

(Continued on Page 185)

WILL RESTRICT PRODUCTION ON TRACTS IN OSAGE NAVAL RESERVE

Ten tracts in the old naval reserve in Osage County, Oklahoma, will be offered at the coming Osage sale, March 28 and 29, subject to production restrictions.

Dr. Hubert Work, Secretary of the Interior, received a committe of representative Oklahoma oil men in his office in Washington on Wednesday, March 21. The committee was made up of J. C. Denton, vice president and general counsel for the Mid-Continent Petroleum Corp. and president of the Oklahoma-Kansas Division of the Mid-Continent Oil & Gas Association; Ray M. Collins, president of the Echo Oil Co. and umpire in the Greater Seminole Field, and Edwin B. Reeser, president of the Barnsdall Oil Corp.

While Secretary Work would not call off the sale for the reason that he is required by law to offer 100,000 acres of Osage oil leases for sale annually, he ordered the Osage agency officials to sell the "naval reserve" tracts subject to these conditions: Tracts 153, 154, 155, 156, 157, 164, 165, 166, 167 and 169 will be offered subject to a limitation and restriction of a maximum production of 50 bbls. per day on each and every well drilled on any of said tracts until such time or times as the Secretary of the Interior may, in his judgment and discretion, authorize a greater production than 50 bbls. per well or wholly remove any limitation and restriction from any well or wells on the above numbered tracts.

The tracts specified are as follows: No. 153, SE Section 9-23-7; No. 154, SW Section 9-23-7; No. 155, SW Section 12-23-7; No. 156, NE Section 16-23-7; No. 157, NW Section 16-23-7; No. 164, NE Section 22-24-7; No. 165, NW Section 22-24-7; No. 166, SE Section 22-24-7; No. 167, SW Section 22-24-7, and No. 169, NW Section 36-24-7.

The Kay County Gas Co., drilling for gas in the SE Section 9-23-7 found oil in the siliceous lime and the well is making over 1,100 bbls. of oil but it is showing some water. The same company in the SW Section 22-24-7 got another siliceous lime well which is good for more than 1,000 bbls. a day. As the company had only a gas lease it has no right to the oil and the two tracts, Nos. 163 and 167, will be sold along with others near by.

Developments in Oil Industry Abroad

Shell Will Market Gasoline in Panama. Movement in Rumania to Standardize Equipment. Crude Stocks Decrease in Poland

Specially Contributed

Benzolverband, Bochum (Germany), an association formed for the distribution of the by-product benzol manufactured by the coke-oven plants in the coal-mining district of the Ruhr Valley, has concluded an agreement with Duetsch-Amerikanische Petroleum Aktiengesellschaft (Dapol), German distributor for Standard Oil Co. of New Jersey, and Rhenania-Ossag, distributor of Royal Dutch Shell for Germany, for a long period of two years providing the mutual supply with benzine and benzol.

Under this agreement the two mineral oil concerns mentioned above are bound to purchase from the benzol distributing association 40,000 tons of benzol until June 30, 1928. In the period beginning with July 1, 1928, and ending with December 31, 1930, these two concerns have to take 25 per cent of the total benzol production of the members of the benzol distributors association.

On the other hand, the benzol distributors association is bound to take from Dapol and Rhenania-Ossag 225,000 tons of benzine in the period beginning with January 1, 1928, and ending with December 31, 1930.

The benzol distributors association is going to increase the present number of filling stations considerably. For this purpose, according to the program, 7,000,000 marks are to be spent during the next two years by the benzol distributors association.

Poland

According to the latest reports from Poland, the situation on the petroleum market there was characterized by a further steady decline in production of crude oil of the Boryslaw brand. The refining industry reports improved conditions, due, it is said, to the signing of the cartel agreement which puts an end to competition among local firms. The signing of this agreement resulted in the stabilization of prices of crude oil and petroleum products on the local market and in increased activities in refineries.

Polish crude oil production during the month of November, 1927, according to preliminary figures, amounted to 59,083 metric tons, divided as follows:

District—	Metric Tons
Drohobycz	49,400
Jaslo	6,200
Stanislawow	3,483
Total	59,083

A metric ton is approximately 7.3 bbls.

The total production of crude oil in the Drohobycz district amounted to 42,700 tons of "Boryslaw" brand and 6,700 tons of special brands.

As compared with the month of October, 1927, the production of the crude oil of the Boryslaw brand decreased by 2,567 tons, which is attributed, it is said, to decreased production in several wells.

The average daily production in the Boryslaw oil district was approximately 1,420 tons as against 1,460 tons in October and 1,475 tons in September. Production figures for the month of December are not yet available.

The average price of crude oil of the "Boryslaw" brand during the month of November, 1927, amounted to about $210 per tank car of 10 metric tons, f.o.b. wells. This is at the rate of $2.87 per barrel.

Crude Stocks Decreased

The stocks of crude oil on hand which showed a steady increase during the previous months of 1927 decreased during November to 30,931 tons. This decrease is due chiefly to an extended use of crude oil by refineries which manufactured during the month of November more than the total amount of crude oil extracted during that month.

According to reports of the Central Statistical Office, there were at the end of November 6,254 registered unemployed oil laborers, as compared with 5,819 at the end of October.

On the other hand, the number of employed laborers during the month under review, according to preliminary figures, numbered 11,845.

A total amount of 64,242 metric tons of crude oil were used by Polish refineries in November, 1927. The following table shows the movement of petroleum products during the month of November, 1927:

	Metric Tons
Crude oil used by refineries	64,242
Petroleum products manufactured	57,789
Domestic consumption	39,047
Exports of petroleum products	22,010
Stock of petroleum products on hand	164,650

Manufacture of crude oil during November increased considerably as compared with the preceding month. On the other hand, the domestic consumption of petroleum products is said to have slightly declined.

Exports of petroleum products from Poland in November, 1927, totaled 22,010 metric tons, as against 20,000 tons in October.

The following table gives exports of petroleum products, in tons, by countries of destination for the month of November, 1927:

Countries of Destination—	Benzine	Refined Oil	Gas Oil	Lubricants	Paraffin	Other Prod.
Austria	251	....	1,129	510	326	144
Czechoslovakia	2,897	5,570	147	1,527	100	763
Danzig	522	46	325	970	1,470	116
Germany	26	15	140	16	10	845
Hungary	50	....	10	121	110	....
Switzerland	54	....	747	61	15	54
Other countries	250	157	971	352	1,075	118
Total	4,050	6,788	3,469	3,557	3,106	2,040

Panama

Gasoline produced by the Shell Oil Co. will be on sale in the local Panama market the middle of April, according to Fidanque Brothers & Sons, who will act as agents for the Shell products on the Isthmus of Panama. It is proposed to erect a tank at the La Boca tank farm to be used for storage purposes.

The Shell Oil Co.'s tank has a capacity of 20,000 bbls. and is equipped with the Wiggins floating top.

The gasoline will be brought to Panama by the company's tank steamers, which will bring gasoline produced in the Venezuelan oil fields and refined at Curacao. The Shell steamers discharging oil at Balboa will continue their trip to San Francisco, where they will again load and continue to other ports on the Shell company's schedule.

Austria

The Shell Petroleum Co., Vienna, Austrian subsidiary of the Shell-Royal-Dutch concern, has reached an agreement to lease for a period of 10 years at a reported annual payment of $50,000 all producing and distributing facilities of David Fanto & Co. A. G. in Austria (Aktiengesellschaft fuer Minasaloel-Industrie, formerly David Fanto & Co. Vienna). The Austrian Fanto Co. has a small finishing plant at Unter Lanzendorf, Lower Austria, where distillates are handled, with an annual producing capacity of about 7,000 tons of raw benzine and 6,000 tons of lubricating oil distillates. It has storage tank facilities in Vienna and a limited number of gasoline filling stations in Vienna and other parts of the country. In the past two or three years, the company's reports indicate that it has been doing business at a loss.

Rumania

With the growing necessity of reducing production costs, there is a strong movement in the Rumanian petroleum industry to standardize all material used. Thus, lately the industry has seriously considered the question of reducing the numerout types of pipes used for casing and pipe lines to a few or even to one standard type. A commission is now studying the matter and upon their report to the Association of Petroleum Industrials in the near future definite steps will probably be taken.

To the same end also, the rotary method of drilling is being increasingly introduced and it is estimated that 80 per cent of the meterage now being drilled is by this method, although the actual proportion of holes is much less. American rigs are by far the most popular, German equipment, it is said, having proven unsatisfactory.

The chief obstacle to the further spread of rotary drilling rigs is the lack of buying power on the part of the majority of the petroleum companies, and should their condition improve in the near future, the demand for rotary equipment will greatly increase.

Preliminary figures covering crude production activities of the Rumanian petroleum companies during 1927 in comparison with 1926 are as follows:

	Metric tons 1927	Metric tons 1926
Crude production	3,660,855	3,243,011
Completed wells, end of December:		
	1927	1926
Being worked	264	381
Producing	791	311
Borings:		
Being worked	561	755
Producing	1,359	1,390

Russia

Exports from Baku to Batoum for the month of January have fallen, only 135,903 tons being exported instead of 194,443 tons. On the other hand, it is reported that exports for February are increasing.

The production of oil for January shows a decrease of 4.2 per cent compared with December, 1927. Preliminary figures give the total as 852,600 tons, made up as follows:

	Tons
Azneft	591,700
Grozneft	243,400
Embaneft	17,500
Total	852,600

Drilling has also decreased, only 17,800 meters having been drilled in January, i.e. 28 per cent less than the previous month.

The following comparative figures of exports for the first quarter (October-December) of the fiscal years 1927-28 and 1926-27, are published in the "Neftianoe Bulletin."

	1927-28 (tons)	1926-27 (tons)
Kerosene	165,655	114,800
Benzine	149,136	123,023
Lubricants	39,430	49,021
Heavy Solar oil	6,562	6,720
Gas oil and motor fuel	42,309	38,062
Mazout	137,719	101,999
Crude oil	84,739	45,353
	572,550	478,978

Increases are noticeable in benzine (21.2 per cent), mazout (29.4 per cent), gas oil and motor fuel (11.3 per cent), while the exports of heavy solar oil, lubricants and crude oil have decreased by 17.2, 19.5 and 23.2 per cent, respectively.

Eighty-four and four-tenths per cent of the oil fuel exported during the period under review was shipped to Europe, 8.7 per cent to the Near East and 6.5 per cent as bunker fuel.

The table below shows the exports to the various countries for the first quarter 1927-28 and 1926-27 (in thousand tons):

	Oct.-Dec. 1927-28	Oct.-Dec. 1926-27
Italy	149.5	112.7
Germany, Austria and Czechoslovakia	107.2	87.1
France	67.7	67.3
England	53.8	118.3
Egypt	50.6	49.5
India	44.9	....
Turkey, Greece and Bulgaria	24.5	31.1
Other countries	65.5	63.1
Total	563.1	479.1
Bunker fuel	11.5	7.1
	574.6	479.1

The Grozny December production, which preliminary figures place at 267,281.3 tons, shows a decrease from that of November.

The details of the production are:

By gushers	193,216.0
By bailing	74,673.5
By pumps	64,445.5
By lake oil	946.0

The output from gushers fell by 16 per cent which, it is stated, accounts for the fall in the general production. Drilling also decreased, the figure being 3,236 meters, as compared with 4,819 meters in November.

The following products were exported from Grozny during December:

	Tons
Benzine	40,035.2
Kerosene	3,976.5
Motor oil	26,112.8
Oil fuel	57,681.8
Axle grease	2,655.2
Lubricating oil	93.5

One thousand, one hundred ninety-five and five-tenths tons of motor oil were pumped from Makhach-Kala (formerly Petrovsk.)

The Emba production has fallen (Continued on Page 182)

FOREIGN DEVELOPMENTS AFFECT U. S.

Of especial importance to the petroleum industry in the United States at this time are developments in oil fields abroad. Production of crude oil and consumption of refined products in foreign countries are reflected upon conditions in this country as they affect our exports and imports, hence it is necessary in order to obtain a true picture of the general situation to consider developments abroad as well as those in the United States. In this connection it is interesting to note that the average price of crude oil of the Boryslaw brand in Poland during last November was $2.87 a barrel while 36 gravity crude in the Mid-Continent area of this country sold for $1.28 a barrel.

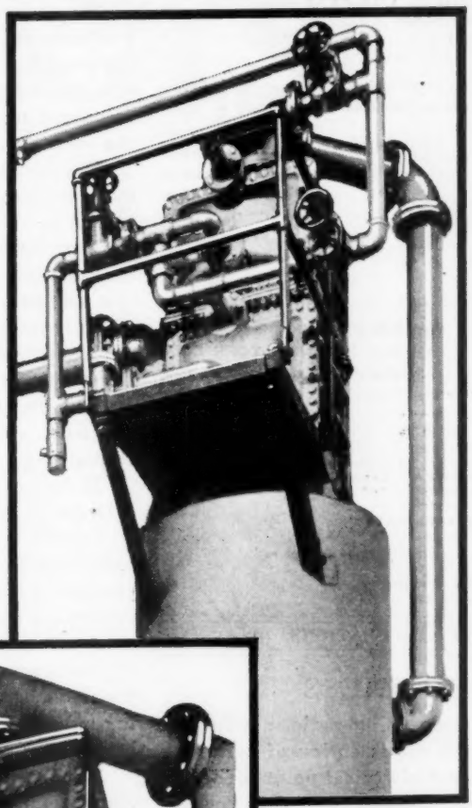
SOUTHWESTERN

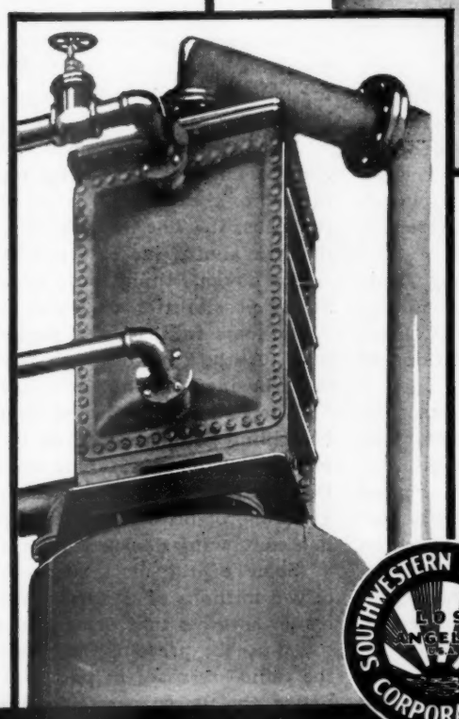
REFLUX *and* PARTIAL VAPOR CONDENSERS

THE circulation of cold crude in Southwestern Reflux and Partial Vapor Condensers is the most economical waste-heat-saver in a distillation unit. The latent heat is removed at a high temperature potential under conditions that yield maximum B. T. U. transfer per square foot of interchange surface installed.

* * *

Two Typical Installations on Fractionating Towers Showing Single and Multiple Use.





. . . The Southwestern multi-tubular steel body condenser meets operating and construction conditions in that —

1. *It is flexible and compact — installed in small area — units easily added or removed — high transfer rate due to multi-tubular construction.*

2. *True counter-current flow with high velocity allows:—efficient heating of the cooling medium — maximum temperature differential between vapor and circulating medium.*

3. *The vertical assembly allows intimate contact between the initially condensed liquid and vapors with — colder condensate — greater condensation of light fractions.*

4. *Short tube construction and cover plate allows easy access for—Detection of faulty tubes—replacements — cleaning. Eliminates — expension joints or split tube sheets.*

5. *Reinforced steel construction allows — high pressure with lower weight per square foot.*

6. *Large vapor inlet and outlets give — minimum vapor pressure drop.*

SOUTHWESTERN ENGINEERING CORPORATION LOS ANGELES U.S.A.

SOUTHWESTERN ENGINEERING CORP.

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Los Angeles, Calif.
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Branch
605 Mayo Building
Tulsa, Oklahoma

Branch
426 Transportation Bldg.
Montreal, Canada

Southwestern Engineering Corp.,
(At office nearest you)
Please send us literature descriptive of Southwestern Reflux and Partial Vapor Condensers.

Name_____

Attention of_____

Address_____

1928

The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.

Established as an International Publication in 1910 by Patrick C. Boyle

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MEMBER AUDIT BUREAU OF CIRCULATIONS

ACTUAL NEW BUSINESS

The Associated Oil Company has been using radio, newspaper, magazine and outdoor advertising to call the attention of motorists to the climate and the natural beauties and historical points of interest along the highways of California, Washington and Oregon on the line suggested for the industry in The Oil and Gas Journal.

"The results have been entirely satisfactory," is the report. "We have actually secured new business."

The Standard Oil Company of Indiana has been picturing scenic spots along the roads in its advertisements in western motoring papers. The Standard of New Jersey and the Standard of California have devoted space in their house organs to descriptions of beautiful highways in Florida and California.

The idea has been there all the time. It is as old as salesmanship. The point is that the oil industry has not taken full advantage of its possibilities for increasing business like other industries.

The entirely satisfactory results in actual new business secured through this means by the Associated Oil Company and the fact that these other great marketing companies have been interested on their own initiative is proof of the soundness of the idea.

The immediate necessity is to have its application extended generally so all the industry may benefit from new business thus created.

Suggestion that the industry get together in a campaign for increased gallonage by inducing motorists to use the roads more is being met at the outset very much as the proposal for co-operation in curtailment of operations was originally received by producers.

If it were possible, many in the marketing division are even more convinced that co-operation among its units is impracticable than producers were before Seminole. Inability to find any other remedy convinced the producers of the necessity of co-operation. A like necessity may bring about co-operation to increase gallonage.

Look the situation squarely in the face.

The expected normal increase in gasoline consumption this year, despite the curtailment in crude production, cannot be hoped to stabilize the industry. Greater gallonage alone will do that. It is needed to balance consumption and production and, most of all, to maintain a living return on investments and operations.

Contrast the financial statements of the industry at large with those of a year ago and you will find earnings cut in half for 1927.

Two or three million dollars wisely spent in a concerted advertising campaign to increase consumption even 5 per cent could have prevented the enormous losses incurred since November, 1926, in shrinkage in the value of petroleum securities, in reduced or passed dividends, in inventory, in cost of carrying a staggering storage, and in unprofitable operations.

The prime purpose of any industry or business is to sell its products and to produce earnings for those engaged in it. The oil industry has been amazingly successful in improving its methods and processes of operation in the field and in manufacturing. Its efficiency has become so great that overproduction has exceeded the normal gain in demand from its more than 20,000,000 customers.

The whole trend of its manufacturing industry is to recover more gasoline from the same quantity of crude, a tendency that cannot be retarded without going backward. The growing demand for burning oil for domestic heating is not as desirable as the motor fuel market, since it requires but little manufacturing. A product that competes with a cheaper substitute cannot be compared with a highly refined product for which there is no commercial substitute.

The practical thing for the industry to do today is to devote as much zeal to research in marketing as it has given to research in production and manufacturing. Its policy has lacked balance. It has been straining every effort to increase output without corresponding effort to increase demand as other industries have done.

It cannot hope for stabilization until it obtains that balance between output and consumption.

Letters received by The Oil and Gas Journal commending the campaign for greater gallonage through attractive advertising to promote wider use of cars and the fact that some companies now doing so are being rewarded with actual new business point the way.

A movement of this sort must begin at the top. It is a question of management, or of executive initiative. It overshadows all other problems because increased efficiency in production or manufacturing only makes the marketing situation worse unless there is a corresponding success in increasing demand.

The industry has shown its ability to co-operate on standardization, on uniform accounting, on curtailment of overproduction, but in each of these the initiative was secured by men getting together to discuss it. The facts about gallonage are well known, so much so that the annual increase can be calculated without material error.

The obvious thing to do is to start a research or survey in marketing possibilities, on which the experience of companies already using some form of this suggested advertising affords a valuable basis. Authorities on such advertising successfully employed by other businesses could be called upon for advice and planning.

The cost of a concerted campaign on a co-operative basis would be trifling compared to the benefits to the whole industry. The example of the operators in the eastern fields with the Pennsylvania Grade Crude Association in promoting the sale of Pennsylvania grade motor oil through an expenditure of only one cent a barrel is a convincing demonstration of what can be accomplished.

Some of the most successful advertising campaigns have received millions of dollars' worth of free publicity by promoting a reader interest that demanded news about a product. The pages given by the press to the theaters, the movies, the automobile and the radio are cases in point. The radio buyer's interest has compelled the newspapers to publish broadcasting programs all over the country. The motorist's interest in getting the greatest pleasure out of his car will create a news demand for good road information that the press will find it profitable to supply.

Industries with much less popular appeal, without 20,000,000 customers to work upon, have set out to increase demand by effective advertising creating desire and have stimulated consumption far beyond all original expectations. The appeal of the motor car is universal, without regard to age or sex, creed or color. Enjoyment lies in its use and the greater use the greater enjoyment. Increased demand awaits only inspiring invitation that the oil industry can most effectively present if it will.

How can it hesitate when the success of such a campaign would mean the difference between depression and prosperity?

The longer action is delayed the longer that prosperity will be postponed.

In Texas

Where thousands of miles of pipe line have been installed in remarkably short time,—and where thousands more are contemplated.—Dresser Couplings have had great demand, popularity and success because they offer permanently tight, quickly made joints.

S. R. Dresser Manufacturing Co.
Bradford, Pennsylvania

DRESSER COUPLINGS DOMINATE

Gray County Well Makes 4,320 Bbls.

Wilbarger County Is Reporting Several Good Completions. Brown County Is Showing Renewed Activity

By James H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Mar. 26.—All three districts in North Texas, Panhandle, Wichita Falls and Ranger districts, were veritably bristling with activity during the past week with Panhandle overshadowing the other two areas.

Ray and Massie's No. 1 A. Chapman, NE NW SW, Section 51, Block 25, H. &G.N. Survey, eastern Gray County, came in late in the week and flowed 4,320 bbls. of 40 gravity oil the first 24 hours from granite wash pay at 2,790-2,800 feet. The well is flowing steadily and is making clean oil. A 2,000,000-foot flow of gas was encountered at 2,800 feet.

This well is one of the best encountered in this area. It is flanked on the north and south by producers of much smaller proportion. The direct north offset, The Texas Company's No. 2 A. Chapman appears to be a good well but probably will not make the producer that Ray and Massie's well is. The latter well, while flowing steadily, is increasing gradually in production. It started off flowing 165 bbls. per hour and at the end of the first 24-hour gauge it was flowing at the rate of 180 bbls. per hour.

The well is 10 miles due north of McLean. Two 500-bbl. flow tanks was the only tankage on the lease when the well came in. When these were filled the flow line was turned into a hastily constructed earthen pit. Additional tankage is being rushed to the lease. The crude from this well commands $1.14 price. Ray and Massie are Wichita Falls, Tex., operators.

Good Completions

Several good wells completed in the general section of eastern central Gray County have prompted the drilling of many tests. In this general area, The Texas Company has acreage well located in two promising zones, in this particular zone and further to the northwest where The Texas Company a few weeks ago brought in a good wildcat well.

On north, of Ray & Massie's well, Danciger Oil & Refining Co.'s No. 1 A. Chapman, in Section 7, Block 26, got a showing of dead oil at 2,400-2,530 feet. The well is bottomed at 2,570 feet. The hole is being straightened and will be drilled deeper.

In the Bowers Pool, Danciger Oil & Refining Co.'s No. 10 Jackson, Section 88, Block B-2, has been cleaned out and flowed 1,155 bbls. during the past 24 hours from granite wash pay at 3,200-27 feet. This well made 2,157 bbls. the first 12 hours and then paraffined up. Another good completion in that pool is the Operators Oil Co.'s No. 2 Jackson, NW cor. of the NE, Section 88, Block B-2. This well swabbed 1,300 bbls. the first 24 hours from granite wash pay at 2,851-68 feet with the hole caving.

In the northeast part of Gray County, Empire's No. 1 Bender, SE cor. of Section 164, Blk. 3, made 275 bbls. of 40.8 gravity crude the first 24 hours from granite wash pay at 3,145-3,300 feet. This well is in the general trend and is a few miles east of the McConnell Field in semiwildcat territory.

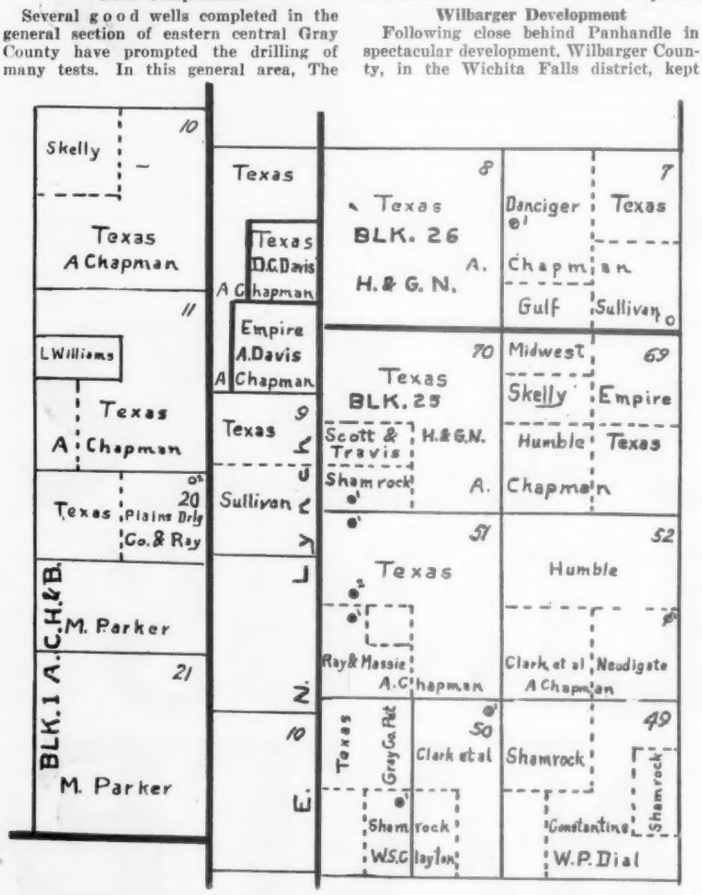
Hutchinson County, after many weeks of quietness, had a flurry of excitement when Dixon Creek Oil Co.'s No. 1 Burnett estate, Section 120, Block 4, was reported to have a showing of oil at 3,060-65 feet. The well is to be deepened.

Wilbarger Development

Following close behind Panhandle in spectacular development, Wilbarger County, in the Wichita Falls district, kept the interest alive for that area. The Texas Company's No. 1-E W. T. Waggoner, in the NW of Section 24, Block 4, H.& T.C. Survey, had the pay at 2,386-96 feet and made 594 bbls. the first 14 hours. During the next 24 hours the well gauged 624 bbls. This well is about three-quarters of a mile north of production in the Greydack Pool.

The same company's No. 1-C Waggoner, in the SE of Section 25, Block 4, H.&T.C. Survey, and southeast of No. 1-E, had 2,000 feet of oil in the hole

(Continued on Page 184)



The above map is a take-off of the acreage around the Ray & Massie high gravity producer in Gray County in the Texas Panhandle. The well, in Section 51, is making 180 bbls. per hour.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending March 24, 1928

ARMSTRONG COUNTY

Company, Well, Farm, Name, Section and Block— Remarks—

United Oil & Trust Co.'s No. 1 J. P. Reck, Sec. 162, Blk. 4, H.&G.N. Sur. ..... S.D., 3,780 ft. for fishing tools.

BRISCOE COUNTY

C. S. Rice's No. 1 J. C. Anderson, SE cor. NW NW, Sec. 22, Blk. B-3, B.S.&F. Sur. ..... S. D., 1,620 ft.

CARSON COUNTY

Amarillo Oil Co.'s No. 1 E. S. Polling, C NE of N 80 acres of NE, Sec. 12, Blk. Y-2, B.&B. ..... Drlg., 460 ft.

Amatex Dev. Co.'s No. 1 E. S. Polling, Sec. 22, Blk. 2-Y ..... T. A., 2,110 ft.

Empire G. & F. Co.'s No. 1 White Deer Inv. Co., C SE of Sec. 51, Blk. 4, I.&G.N. ..... S.D., orders. 3,000,000 ft. gas, 1-280-2,645 ft.

Empire G. & F. Co.'s No. 1 J. C. Noel, C SW, Sec. 41, Blk. 4, I.&G.N. Sur. ..... Rig on ground.

Empire G. & F. Co.'s No. 1 E. W. Sheridan, C NE, Sec. 243, Blk. B-2, H.&G.N. Sur. ..... Set 20-in cag., 215 ft.

Gulf Production Co.'s No. 1 W. E. Cobb, SE cor. S half NE, Sec. 202, Blk. 3, I.&G.N. Sur. ..... Rigging.

Marston Oil Co.'s No. 1 J. L. Noel ..... Fish., 3,000 ft.

Skelly Oil Co.'s No. 8 F. Schafer, NE SW SW, Sec. 88, Blk. 4, I.&G.N. Sur. ..... Set 10-in. csg., 1,077 ft.

The Texas Co.'s No. 1 W. H. Cobb, NE SE SE, Sec. 202, Blk. 3, I.&G.N. Sur. (Lease S 100 A SE) ..... Drlg., 2,450 ft.

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 M. Slemmons, SW cor. Sec. 73, Blk. M-17, B.S.&F. Sur. ..... Rig blown down.

Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur. ..... S.D., 510 ft. for csg.

CHILDRESS COUNTY

Hoover & Calloway's No. 1 O. L. Tucker, Sec. 736, Haggard Sur. ..... Spudded and S.D.

C. L. Sloane et al's No. 1 B. P. Smith, Sur. 49, F. P. Knott lands ..... Set 6-in., 2,902 ft.; S.D., 3,745 ft.

COTTLE COUNTY

Exploration Co.'s No. 1 Richards ..... Spudded and S. D.

DALLAM COUNTY

Wood Bros. et al's No. 1 Capitol Synd., Sec. 19, Blk. 17 .. Hole full wtr., 4,007-4,127 ft.; S.D. 4,360 ft.

Marland Oil Co.'s No. 1 A. M. James, C SW W ½ Sec. 21, S. H. McElreath Sur. ..... Drlg., 3,760 ft.

Marland Oil Co. et al's No. 1 Capitol Synd., Sec. 36, Blk. 18, Capitol Synd. land. ..... S.D., 3,500 ft.

DONLEY COUNTY

A. T. Drlg. Co.'s No. 1 F. E. Harrington, Sec. 39, Blk. 3-C ..... 1,200 ft. wtr., 3,115-22 ft.; show gas, 3,140-60 ft.; dry G.W., 1-200-93 ft; T.D., 3,498 ft; S.D.

FLOYD COUNTY

Expltn. Co.'s No. 1 S. H. Boone, C. C. H. Johnson Sur. .. Spudded and S.D.

Expltn. Co.'s No. 1 Land & Cattle Co. ..... Drlg., 2,550 ft.

Hoffer Oil Corp.'s No. 1 Nelson ..... Spudded and S.D.

GRAY COUNTY

Archer Blake's No. 1 Turneaux, SW cor. Sec. 111, Blk. B-2 ..... S.D., 255 ft.

Biggs et al's No. 1 Morse, SW cor. Sec. 3, Blk. 26, H. &G.N. Sur. ..... 8-in. csg. set, 1,875 ft.

Cole O. & G. Co.'s (was Magdalene Oil Co.'s) No. 1 J. E. Williams, Sec. 17, Blk. 1 ..... S.D., 3,860 ft.

Danciger O. & R. Co.'s No. 7 W. Jackson, Sec. 88, Blk. B-2, H.&G.N. Sur. ..... 3,000 ft. T.D.; making 5,000,000 ft. gas from 2,779-3,000 ft. and 5 bbls. oil; stdxng., 3,000 ft.

Danciger O. & R. Co.'s No. 9 W. Jackson, NW cor. NE NW Sec. 88, Blk. B-2 ..... Fish., 2,800 ft; may skid rig.

Danciger O. & R. Co.'s No. 10 W. Jackson, NE cor. NW NW, Sec. 88, Blk. B-2 ..... Flowed 2,157 bbls. first 12 hrs. from G.W., 3,020-27 ft; paraffined up.

Danciger O. & R. Co.'s No. 1 W. Crank, SW cor. NW, Sec. 163, Blk. 3, I.&G.N. Sur. ..... Drlg., 1,375 ft.

Danciger O. & R. Co.'s No. 1 A. Chapman, SW cor. NW, Sec. 7, Blk. 26, H.&G.N. Sur. ..... U.R. 8¼-in. csg., 1,510 ft.; 15,000,000 ft. gas, 2,215-2,300 ft; show dead oil, 2,400-2,530 ft.

Danciger O. & R. Co.'s No. 1 C. W. Bradford, NE cor. SE, Sec. 123, Blk. B-2, H.&G.N. Sur. ..... 1,000,000 ft. gas, 2,410-30 ft; fish. 2,607 ft.

Danciger Oil Co.'s No. 1 J. S. Morse, SE cor. NE SW, Sec. 2, Blk. 26, H.&G.N. ..... Drlg., 1,980 ft.

Danciger et al's No. 1 R. Smith, SW cor. Sec. 149, Blk. 3 ..... Location.

Dillard et al's No. 1 Furney, NE cor. SE, Sec. 202, Blk. B-2, H.&G.N. Sur. ..... Rig.

Donley Gray Oil Co.'s No. 1 J. W. Gordon, Sec. 79, Blk. 3. Wtr., 3,380 ft. and 3,430 ft. show oil; H.F.W., 3,650 ft.; T.D., 3,870 ft.; U.R. 6-in. csg., 3,852 ft.; drlg., 4,152 ft.

Delmar Oil Co.'s No. 1 F. Foster, NW cor. SW, Sec. 55, Blk. B-2, H.&G.N. Sur. ..... Rig.

Edwards et al's No. 1 E. J. Case, NE cor. Sec. 182, Blk. B-2, H.&G.N. Sur. ..... 70,000,000 ft. gas, 2,512-2,630 ft.; top G.W., 3,034 ft; drlg., 3,048 ft; 2,000 ft. oil in hole.

Empire G. & F. Co.'s No. 1 E. J. Case, C NE, Sec. 180, Blk. B-2, H.&G.N. Sur. ..... 36,000,000 ft. gas, 2,525-2,665 ft.; S.D., 2,710 ft.

Empire G. & F. Co.'s No. 1 S. A. Cobb, NW cor. NE, Sec. 64, Blk. 25, H.&G.N. Sur. ..... Drlg., 2,475 ft.

Empire G. & F. Co.'s No. 1 T. Cobb-"B," C NW, Sec. 178, Blk. 3, I.&G.N. Sur. ..... Drlg., 660 ft.

Empire G. & F. Co.'s No. 1 A. J. Dauer, NW SE SE, Sec. 236, Blk. B-2, H.&G.N. Sur. ..... Set 12-in., 1,055 ft.

Empire G. & F. Co.'s No. 1 Holmes, C NE, Sec. 179, Blk. 3, I.&G.N. Sur. ..... Building rig.

Eslick et al's No. 1 Mrs. J. A. Hopkins, NW cor. W 80 acres of SW¼, Sur. 84, H.&T.C., Blk. B-2 ..... Set 8-in., 2,208 ft.

Gibson Oil Corp.'s No. 3 J. B. Bowers, 1,650 ft. from E line and 990 ft. from S line, E half, Sec. 92, Blk. B-2 ..... Struck gas, 2,925 ft; swb. 30 bbls. 2,203 ft; to d.d.

(Continued on Page 134)

Hendricks at New Peak, 202,000 Bbls.

Another Big Completion in Northern Part of Field. Eastern Extension Reported Looking Better. Proration Plan Delayed

By James H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Mar. 26.—While many important developments were reported from various areas in West Texas, Hendricks, in Winkler County, was the most prominent area in all reports. With its new attainments during the past week and the swift and sudden refining developments in West Texas, all the other features of the week's report were more or less crowded into the background.

Hendricks again went over the top in production when it climbed to a new peak of approximately 202,000 bbls. On top of that the north part of the field was the scene of another big completion and the eastern extension to the pool was "looking better." At the same time the plans to hold the field down with a proration agreement got another temporary setback when the committee was forced to adjourn Saturday without accomplishing its purpose.

The refining feature of West Texas rose strongly and swiftly during the past week when reports that no less than 10 plants were planned for West Texas. One of these plants is being built at the present time. Two other companies have worked their plans to a stage where it is believed they will erect their plants. The plans for seven other plants are in their early stages. Five concerns of the seven verified the report they were considering and figuring on building refineries in West Texas but do not desire at this time to be identified or make public their plans. Reports concerning the other two plants were not verified.

Wickett Refining Co. of Tulsa, is rushing construction work on a 1,500-bbl. plant at Wickett. This plant is being built on a property adjoining the Bluebonnet's refining plant at Wickett and it will run the tops from the Bluebonnet plant which is cutting fuel oil and selling it to the Texas & Pacific Railroad. Roy McKee of Tulsa, and E. B. McKee of San Angelo, Tex., have made public their intention to build a 1,000-bbl. plant at Big Lake in Reagan County. Crystal Oil & Refining Corp. of Shreveport, La., is reported considering building a 5,000 or 10,000-bbl. permanent plant either at Monahans in Ward County or Pecos. Authorities on refining say that a 20 per cent yield of 58 gravity gasoline and 10 per cent yield of kerosene can be obtained from Winkler County crude. In addition about 34 per cent 27.1 gravity gas oil and 34.6 per cent 14.6 gravity fuel oil can be obtained.

Another Winkler Gusher

In comparison with last week's daily average estimate, Winkler declined about 3,000 bbls. in daily average and gave West Texas as a whole a decline of 1,858 bbls. However, no one can get any consolation out of such a small decrease since the daily average production jumped 52,000 bbls. during the previous two weeks. Moreover, Winkler sailed to a new peak when its Sunday gauge showed it made 201,897 bbls.

On the heels of that another gusher was brought in in the north part of the field which was recently extended by Cranfill & Reynolds' No. 1-C Hendricks in Section 33, Block 26. Southern Crude Oil Purchasing Co.'s No. 1 T. G. Hendricks T-67-3-B, a direct west offset, topped the pay at 2,830 feet and made 520 bbls. the first 20 minutes through a 4-inch drill pipe and a half-inch choke at the gate. During the first 18 hours this remarkable producer gauged 9,598 bbls. It is interesting to note that both of these big gushers are exactly the same distance in the lime, both being 325 feet.

The north part of the pool has enough production and drilling wells in it to cause overproduction in Hendricks even though the rest of the field is shut in. Three wells in that section are making 34,000 bbls. daily and two are pinched to at least half their capacity. The several other wells are getting close to the pay rapidly. Farther north, and in the same section, there are two rigs being watched with interest. One was built by Cranfill & Reynolds and the other by Murchison and Cranfill Brothers. If these two wells are drilled it will necessitate the drilling of many more wells in the heavy flush area.

Made 27 Locations

One of the features of the past week for Hendricks was the staking of 27 locations by the Southern Crude Oil Purchasing Co. These locations have been made along the east lines of Sections 41 and 44 of Block 26 and in Sections 42 and 30 in Block B-5 and extend 4½ miles in a row north and south almost the entire length of the field. If drilled these 27 locations will require 20 east offsets by six different companies.

Southern Crude is reported to have made plans to drill 20 of these locations immediately, if so desired. Should they be drilled it will give a big impetus to the already large drilling campaign in Hendricks. However, it is reliably reported the company has no intention of drilling the wells until the outcome of the proration plans is determined. Southern Crude thus far has shown its willingness to co-operate in curtailing Hendricks production.

Proration Postponement

The proration committee failed to reach an agreement Saturday in Austin because it was not supplied with the information desired in studying contracts, which have proved an obstacle in prorating the field under the 40-acre unit plan. That plan would divide the field into 40-acre tracts and each 40 acres allowable production would be figured by dividing the total number of 40-acre tracts into the field's outlet.

Present contracts for Winkler crude have proved the stumbling block in the plan. R. D. Parker, chief of the Oil and Gas Division of the Texas Railroad Commission and chairman of the Hendricks proration committee, requested operators to furnish the committee copies of their contracts. Only two companies supplied that information at the Saturday meeting. The Railroad Commission has issued an order requiring all companies or individuals having contracts for Winkler County crude to submit details of those contracts to the proration committee when it meets in Fort Worth, March 29. The commission also requested an official of each company to be present at the meeting.

Hendricks' eastern extension, Independent Oil & Gas Co.'s No. 1 McCabe, SE NW NW, Section 36, Block B-5, set 6-inch casing at 2,706 feet and is reported ready to drill ahead. This well is making 15,000,000 feet of gas and spraying 50 bbls. of oil daily. This well had the first gas at 2,423 feet with an increase at 2,485 feet. It topped the pay at 2,645 feet with an increase in oil at 2,660-65 feet.

Up to the northeast, the Amerada Petroleum Corp. got another increase in gas. That company's No. 1 Walton, SW NW, Section 48, Block 26, is now making 20,000,000 feet of gas and drilling at 2,451 feet. Southern Crude Co.'s diagonal southeast offset is still being delayed by a fishing job.

Big Tank Deal

One of the biggest tank deals of the week was made by Southern Crude Co. when that company placed an order for twenty 80,000-bbl. capacity steel tanks. These tanks are reported to have been purchased for erection at Wickett on the Texas & Pacific Railroad. This will give that company a total storage capacity of 2,625,000 bbls. at Wickett. At the present time Southern Crude Co. has in excess of 800,000 bbls. in storage at Wickett and room for around 200,000 bbls. more of crude.

The tank car movement and pipe line shipments out of Hendricks averaged around 108,000 bbls. last week. At the close of the week there were 5,075,000 bbls. of crude in storage. The total storage capacity is almost 7,000,000 bbls. leaving 1,925,000 bbls. of storage available. At the present time 2,675,000 bbls. of storage is being built in the Winkler area.

New Mexico Is Showing

One of the most important developments affecting Winkler County was at the Marland Oil Co.'s No. 1 Eaves, SW cor. SE, Section 19-26s-37e, southeastern Lea County, New Mexico. This well had a show of dead oil and gas in lime at 2,697 feet. The well's elevation is 2,960 feet and it topped a brown lime at 2,630

WILDCAT OPERATIONS IN WEST TEXAS

Week ending March 24, 1928

Company, farm and location—	Remarks—
ANDREWS COUNTY	
Deep Rock Oil Co.'s No. 1 W. J. Harris, C SE Sec. 12, Blk. A-46, Public School Land, elev. 3,167 ft.	Top salt, 1,690 ft; S.D., 2,970 ft. for csg.
BORDEN COUNTY	
Dixon Creek Oil Co.'s No. 1 Clayton & Johnson	Top salt 1,250 ft.; underreaming 10-in. casing 1,778 ft.
Marland Oil Co.'s No. 1 G. E. McDavid, C SW Sec. 156, Blk. 25, H.&T.C. Sur., elev. 2,310 ft.	Top lime 2,410 ft.; underreaming 10-in. casing 2,810 ft.
Marland Oil Co.'s No. 1 Alexander Murphy, C SW Sec. 66, Blk. 25, H.&T.C. Sur. (3,250-ft. test)	Location.
BREWSTER COUNTY	
Cowden & Bowser's No. 1 Jackson & Harmon, C N half Sec. 1, Blk. 351	Shut down 130 ft.
J. M. Hickey's No. 1 Jackson & Harmon, NE cor. Sec. 183, Blk. 9, G.H.&S.A. Sur.	Shut down 967 ft.
Mid-Kansas O. & G. Co.'s No. 1 Turney, Sec. 77, Blk. 213, T.&St.L. Sur.	Shut down 3,500 ft.; may plug.
Reese & White's No. 1 Kimbale, C NE Sec. 304, Blk. 9, G.H.&S.A. Sur.	Drlg. 1,615 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,700 ft.
Wilcox & Anderson's No. 1 Gage, Sec. 8, Blk. 300, T.C. R.R. Sur.	Show gas 2,004-2,010 ft.; straight-reaming 8¼-in. casing 2,010 ft.
COKE COUNTY	
W. H. Brown et al's No. 1 W. L. Foster, SE cor. Sec. 142, Blk. 2, H.&T.C. Sur., elev. 2,222 ft.	Cleaning out 3,570 ft.
Lipan Oil Co.'s No. 1 S. M. Conner, Sec. 71, Blk. 2, H.& T.C. Sur.	Show oil 1,224-34 ft.; shut down 3,375 ft.
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Shut down 2,739 ft.
CONCHO COUNTY	
C. R. Dutton and Hughes Drlg. Co.'s No. 1 W. O. Shultz, Sec. 127, Blk. 72, T.&N.O.R.R. Sur.	Shut down 1,000 ft.
The Exploration Co.'s No. 1 Hartgrove, Blk. 240, J. Schouch Sur., elev. 1,718 ft.	Set 10-in. 760 ft.; shut down 940 ft.
Sartain Oil Co.'s No. 1 Evridge	Spudded and shut down.
CRANE COUNTY	
Crane Dev. Co.'s No. 1 J. R. Mosley, S cor. Sec. 18, Blk. 6, H. & T. C. Sur.	Top salt 819 ft.; show oil 3,017 ft.; total depth 3,280 ft. shot 100 qts. at 3,017-45 ft. and 500 qts. at 2,065-2,185 ft.; no results.
Great Basin Oil Co.'s No. 1 M. T. Eudaley, 2,200 ft. from NE line, 1,800 ft. from SE line, Sec. 36, Blk. 4, H.&T.C. Sur.	Spudding.
Gulf Prod. Co.'s No. 49 J. T. McElroy, Sec. 201, Blk. F, C.C.S.D.&R.G.N.G.R.R. Sur.	Drlg. 1,004 ft.
Lockhart et al's No. 1 M. M. Treanor, Sec. 28, Blk. 1, H.&T.C. Sur.	Drlg. 970 ft.
CROCKETT COUNTY	
Anderson & Williams' No. 1 University, SE cor. NW NW SE Sec. 19, Blk. 47	Moving in material.
V. T. Bolin & Co.'s No. 1 P. C. Coates, NW cor. SW Sec. 4, Blk. 2, I. & G. N. Sur.	Shut down 2,110 ft.
R. B. Coyle's No. 1 H. M. Halff, C Lot 15, Sec. 70, Blk. 1, I.&G.N. Sur.	Spudding.
Dixie Oil Co.'s No. 1 George Thompson, Sec. 72, Blk. 1	Location.
J. S. Cosden, Inc., No. 1 Paul Perner, SW cor. Sec. 36, Blk. 2, I. & G. N. Sur.	Drlg. 1,360 ft.
Evenshaw and McMann Oil & Gas Co.'s No. 1 W. Owens, C NW Sec. 17, Blk. G.G., G.C.&S.F.R.R. Sur.	Top salt 1,140 ft.; hole full salt water 1,310-20 ft.; drlg. 1,345 ft.
Humble O. & R. Co.'s No. 2 P. J. Sorg Est	Total depth 2,690 ft.; top pay 2,591 ft., lime; swab. 400 bbls. 18 hrs.; shut down for storage.
Van McPhail's No. 1 George Thompson, C 10-acre tract No. 21, Sec. 70, Blk. 1	Location.
Van McPhail et al's No. 1 George Thompson, C 10-acre tract No. 22, Sec. 70, Blk. 1	Location.
Grayburg Oil Co.'s (formerly Osage Oil Corp.'s) No. 2 Halff, 1,200 ft. down river from No. 1 in Sec. 70, Blk. 1, I.&G.N. Sur.	Drlg. 1,040 ft.; top pay 1,031 ft.; 150 ft. oil in hole.
Grayburg Oil Co.'s (formerly Osage Oil Co.'s) No. 3 H. M. Halff, Sec. 70, Blk. 1, I.&G.N. Sur.	Shut down 200 ft.
W. W. Donnelly & Young's No. 1 Massey, Sec. 29, Blk. U-V	Shut down 600 ft.
W. R. Simmons' No. 1 University, 150 ft. N of C S line SE Sec. 1, Blk. 14	Shut down 200 ft.
Whonlick's No. 1 H. M. Halff, 150 ft. N of S line and 200 ft. E of Pecos River, Sec. 69, Blk. 1, I.&G.N. Sur.	Location.
World Oil Co.'s No. 1 Schneeman-B, Sec. 90, Blk. B15, G.C.&S.F. Sur.	Top salt 1,070 ft.; hole full salt water 2,210-15 ft.; set 6-in. 2,540 ft.; drlg. 2,830 ft.; hole full sulphur water; shut down 2,910 ft.
M. B. Wyrick et al's No. 1 H. M. Halff, Sec. 68, Blk. 1, H.&G.N.	Shut down 800 ft.
Zoch's No. 1 University, SW cor. Sec. 16, Blk. 14	Location.

(Continued on Page 137)

feet, making the lime 330 feet above sea level. While it may not mean anything the developments at this well are similar to those of the Westbrook discovery well in Winkler County.

The well is about 3 miles west of The Texas Company's No. 1 Rhoades which is shut in at 3,213 feet where it had 24,000,000 feet of gas. No. 1 Rhoades was allowed to blow open for a month before shutting in and the last day before it was shut in the well sprayed 140 bbls. Marland's well is about 5 miles northwest of the Roxana-Llano producer. Marland company's well is shut down for orders.

Another pipe line outlet will be afforded Winkler County by the California Co. It will extend its projected line from El Paso to Pecos north to Winkler. The line will be an 8-inch diameter carrier with a capacity of between 10,000 and 14,000 bbls. daily. Five stations will be built, four of which will be powered by Diesel engines and the fifth station, at Wink in Winkler County, will have centrifugal pumps powered by 300-horsepower motors.

Two big wells were completed in Winkler County at the close of the week. Republic Production Co.'s No. 2-A Hendricks, NE cor. E half SW, Section 45, Block 26, topped the pay at 2,752 feet and flowed 6,800 bbls. the first 17 hours. Roxana Petroleum Corp.'s No. 6 Hendricks-C, SW NE NW, Section 29, Block B-5, had the pay at 2,894-98 feet and flowed 5,157 bbls. in 24 hours through and around the drill pipe. Roxana corporation got a good south offset to the Republic company's No. 2-A when the Roxana well flowed 6,164 bbls. yesterday and pinched. While drilling at 2,910 feet Pure Oil Co.'s No. 4-B, Section 34, Block B-5, made 1,200 bbls. yesterday.

Lease Deals in Pecos

Skelly Oil Co.'s No. 1 Tippett, Section 108, Block 94, in the northwestern tip of the Yates Field in Pecos County, topped the pay at 1,280 feet and is bottomed at 1,400 feet. This well is flowing at the rate of 50 bbls. per hour and no water is showing. Mid-Kansas Oil & Gas Co. and Transcontinental Oil Co.'s No. 22 Yates-B, Section 61, Block 1, is showing for a big well in pay at 1,215-85 feet. The well made 904 bbls. the first hour and 810 bbls. the second hour and was then pinched and made 3,230 bbls. the first 11 hours.

Lease deals figured more prominently in Pecos last week than anything else with the largest of the two big deals being closed by the Grayburg Oil & Refining Co. of San Antonio. Grayburg purchased the producing property of the Osage Oil Co. in Crockett County, for a reported consideration of $100,000 cash and $200,000 in oil. It was reported the Grayburg company has a contract with the Illinois Pipe Line Co. to move 3,000 bbls. daily from the field to Lytle station.

This amount of crude would be considerably in excess of what the lease would be permitted to produce under the Pecos prorating agreement. Whether this will necessitate a revision of proration will depend largely upon the amount of oil the Osage company produces. This lease is on the eastern side of the Pecos River and is considered to be in a treacherous water zone. Grayburg company opened its No. 1 Halff in the northwest part of Section 70, Block 1, I.&G.N. Survey, Crockett County, and the well made 635 bbls. of oil and no water in 1 hour and 35 minutes.

Shell Pipe Line Corp. is scheduled to begin running 4,000 bbls. daily from the Yates Pool in the near future. This pipe line outlet will increase the field's outlet from 48,000 bbls. daily to 52,000 bbls. daily and will result in a proportionate increase in allowed production of all leases.

The other big deal reported in Pecos County was that through which the Matador Oil Corp. of Amarillo purchased a 40-acre lease from Dr. Emil Ott and associates of San Angelo for a reported price of $100,000, half cash and half oil. The 40 acres is the SE quarter of the NE quarter of Section 24, Block 194, G. C.&S.F.R.R. Survey. This tract is in the southwestern part of the eastern Pecos County Field. It is reported the Matador company plans to drill four wells on the lease at an early date and that location for one of the wells is to be made within the next three days.

Howard County Pools

Considerable interest was being given to Henshaw and associates' No. 1 Settles in the SW SE SW, Section 135, Block 29, Waco & Northwestern Survey. This well is in the Settles Pool and is a half mile west of the nearest producer. It has 2,000 feet of oil in the hole from 2,475-85 feet and is drilling hard lime at 2,490 feet.

This section of Howard County is being held down at the present time because of inadequate pipe line facilities. There are five pay zones in the string of pools along the southern line of Howard County, the best of which is the deep lime production. It is reported that plans are being made to build a pipe line into Big Spring. It might be added that one of the proposed refineries, mentioned at the opening of this article, will probably be located at Big Spring.

About 6 miles southwest of the discovery well in Runnels County, Gibson & Johnson's No. 1 Seratt, Section 150, E. T.R.R. Survey, is estimated good for 15 bbls. from a pay at 2,322-25 feet. The crude from this well tests 43.7 gravity, the well is being cored ahead.

Reagan County was back in prominence as a result of the Marland Oil Co.'s No. 1 University, SE cor. SW, Section 26, Block 8, topping the salt at 1,360 feet.

Texon Oil & Land Co.'s No. 1-B University, in the University Pool, in Reagan County, still continues to make 100 feet of hole every week and is now drilling at the record depth for cable tools at 7,980 feet. It is reported this well is to be drilled as deeply as the hole will permit and so far drillers are continuing to make good time in carrying the hole on down.

Estimated Daily Average Production
WEST TEXAS
Week Ending March 24

Crane County	72,786
Crockett County	2,627
Ector County	15
Fisher County	230
Glasscock County	S.D.
Howard County	4,072
Jones County	1,337
Loving County	105
Mitchell County	3,363
Pecos County	45,905
Reagan County	19,770
Runnell County	160
Scurry County	36
Upton County	14,429
Winkler County	179,359
Total this week	344,194
Total last week	346,052
Decrease	1,858

WEST TEXAS
Daily Average Production by Leases
Week Ending March 24
Crane County

Company, Lease—	Wells	Bbls.
Church et al:		
University	1	96
Church & Weekley:		
University	3	930
Church & Fields:		
Duoil-University	1	112
Eastland Oil and Collett:		
University	8	3,813
Gulf Prod. Co.:		
All leases	67	17,752
Humble O. & R. Co.:		
University	13	4,469
Independent O. & G. Co.:		
University-A	5	*1,061
University-B	2	*1,045
Landreth Prod. Corp.:		
Cowden-Anderson	16	9,443
Magnolia Pet. Co.:		
University-Hardwicke	14	2,385
University-O'Keefe	12	1,761
State-Lasseter:		
State-Lasseter	3	176
Magnolia et al:		
University	4	56
Pecos Oil Co.:		
University	16	3,393
Prairie O. & G. Co.:		
University	5	*383
State-Lasseter	7	*8,921
Simms and Atlantic:		
University-A	9	*2,031
University-B	1	54
University-C	8	*3,433
University-D	12	*4,305
University-E	1	156
Stidham & Thrasher:		
University	1	10
The Texas Company:		
University	1	212
University-Beasley	1	22
Tidal Oil Co. et al:		
University-B	2	59
University-C	1	31
University-E	1	71
University-F	8	*2,143
University-G	3	*385
University-H	2	21
University-I	8	*3,295
Total Church & Fields Pool	236	72,024
Average per well		305.1

Miscellaneous Crane County

Gulf Prod. Co.:		
Waddell	1	3
Independent O. & G. Co.:		
Hughes	1	1
McMan O. & G. Co.:		
Hughes	2	64
Marland Oil Co.:		
All leases	14	540
The Texas Company:		
King	9	332
Miscellaneous total	28	781
Grand total Crane County	264	72,811
Average per well		275.8

Pecos County

Pandem Oil Co. et al:		
Pecos River Bed	7	36
California Oil Co.:		
Lates, Lease 1	13	3,397
Smith, Lease 1	1	116
Smith, Lease 3	11	4,163
Gulf Prod. Co.:		
All leases	11	6,393
Humble O. & R. Co.:		
M. A. Smith	6	1,729
M. A. Smith-B	4	1,351
Kirby Pet. Co. and Edson:		
J. H. Tippett	1	261
Marland Oil Co.:		
Yates-A	10	973
Mazda and Savoy Oil Co.:		
M. A. Smith	1	280
McMan and Marland:		
Yates	15	4,223
McMan O. & G. Co.:		
J. H. Tippett	2	511
Mid-Kansas and Transcontinental:		
Yates-A	15	3,890
Yates-B	25	4,024
Yates-C	9	2,092
Yates-D	2	373
Yates-E	1	139
Yates-F	1	760
Smith	2	77
Smith-Taylor	11	4,440
Phillips Pet. Co.:		
Smith	1	86
Red Bank Oil Co.:		
Smith	2	480
Roxana Pet. Corp.:		
Tippett	7	2,834
Smith	6	1,180
Simms Oil Co.:		
Smith	6	2,893
Texon O. & L. Co.:		
Yates	2	8
Total Yates Field	169	45,905
Average per well		271.6

Winkler County

Atlantic O. P. Co.:		
Grisham-Hunter	4	7,285
Grisham-Hunter-E	1	3,153
Ida Hendricks	1	311
Ida Hendricks-D	2	*3,004
Atlantic and Collett:		
Ida Hendricks-F	1	5,536
Cranfill & Reynolds:		
Ida Hendricks	2	2,706
Grisham-Hunter-B	1	311
Hendricks-C	1	11,022
Gulf Prod. Co.:		
T. G. Hendricks	8	13,990
Humble O. & R. Co.:		
Grisham-Hunter	4	*22,952
Ida Hendricks-B	3	4,399
Independent O. & G. Co.:		
E. W. Cowden	1	39
Grisham-Hunter	6	*6,056
Grisham-Hunter-B	3	*3,373
Hendricks	1	16
Ida Hendricks-B	1	353
Landreth Prod. Corp.:		
Grisham-Hunter	2	5,947
Ida Hendricks-A	3	7,836
Magnolia Pet. Co.:		
Ida Hendricks	6	3,651
Murchison & Cranfill Bros.:		
Grisham-Hunter	2	150
Grisham-Hunter-C	1	102
Grisham-Hunter-B	2	811
Republic Prod. Co.:		
Grisham-Hunter-A	1	8,720
Grisham-Hunter-B	1	15
Roxana Pet. Corp. and Llano:		
Scarborough	1	S.D.
Roxana Pet. Corp.:		
Grisham-Hunter-A	2	*9,992
Grisham-Hunter-D	2	*8,396
Ida Hendricks-B	3	*4,879
Ida Hendricks-C	5	*12,085
Southern Crude Co.:		
T-67 Hendricks-A	1	179
T-67 Hendricks-C	5	1,417
T-67 Ida Hendricks-B	1	550
T-67 Hendricks-F	3	3,043
T-68 Ida Hendricks-A	1	0
T-88 Ida Hendricks-A	1	745
T-88 Hendricks-B	2	5,840
T-88 Ida Hendricks-C	6	2,498
T-88 Ida Hendricks-H	1	1,740
T-88 Ida Hendricks-I	1	1,590
Texon O. & L. Co.:		
Grisham-Hunter-A	1	*2,273
Grisham-Hunter-B	2	6,199
Pure Oil Co.:		
Grisham Hunter	3	4,747
Grisham-Hunter-B	3	1,903
Furman et al:		
Ida Hendricks	6	4,795
Total Winkler County	107	179,359
Average per well		1,676.2

*Pinched in.

WEST TEXAS COMPLETIONS
Week ending March 24
Concho County

Parks & Lawson's No. 1 Schultz was dry and abandoned at 1,510 feet.

Crane County

Crane Development Co.'s No. 1 J. R. Mosley, Section 18, Block 6, H.&T.C. Survey, was shot with 100 quarts at 3,017-45 feet, with no results. The test was feet, with not results. The test was drilled to a total depth of 3,280 feet and has been shut down for orders to abandon.

Howard County

Bristow & Merrick have temporarily abandoned their rig for No. 5 A. J.

(Continued on Page 186)

Late News from the Field

Crude Oil Contracts Again Delay Plan of Winkler Curtailment

FORT WORTH, Tex., Mar. 26.—The Winkler County proration committee, appointed by the Texas Railroad Commission to work out a proration agreement to control the Hendricks Field in Winkler County, adjourned Saturday after an all-day meeting at Austin without reaching a decision. Another meeting will be held in Fort Worth Thursday morning at 10 o'clock.

The committee was handicapped at the meeting Saturday because of the lack of definite information concerning crude contracts, which have thus far been a high stumbling block in working out a proration plan. R. D. Parker, chairman of the committee and chief supervisor of the oil and gas division of the Texas Railroad Commission, had requested this information be given the committee. Only two companies complied with the request.

As a result, the commission issued an order for all companies or individuals possessing Winkler County crude contracts to present details of those contracts at the meeting Thursday. An official of each company was also requested to be present at the meeting. The committee does not desire to go further with a proration plan until it has definite knowledge concerning the crude contracts now in force in Hendricks. The commission believes it has the power to obtain information concerning the contracts, but the companies are expected to comply with the second request for the information.

WEST TEXAS-PANHANDLE

FORT WORTH, Tex., Mar. 27.—Ray and Massies' No. 1 Chapman, Section 51, Block 25, Gray County, has decreased in flow to 100 bbls. per hour of clean oil. The decrease is believed to be due to paraffin trouble and a larger flow line is being laid. The Texas Company's No. 1 Cobb, Section 202, Block 3, Gray County, is making 57,000,000 feet of gas from lime at 2,585 feet. Same company's No. 2 B. Chapman, Section 51, Block 25, is good for 200 bbls. daily at 2,722-50 and is drilling at 2,828 feet.

In Winkler County, Southern Crude Oil Purchasing Co.'s No. 1 T. C. Hendricks, 3-T-67-B, offsetting Cranfill & Reynold's gusher in the north extension of the Hendricks Pool, made 10,972 bbls. the first 24 hours pinched from pay at 2,828-30 feet. Roxana Petroleum Corp.'s No. 6 Hendricks, Section 29, Block B-5, gauged 6,574 bbls. the first 24 hours from pay at 2,896-98 feet. Amerada Petroleum Corp.'s No. 1 Walton is drilling at 2,465 feet and making 30,000,000 feet of gas.

FIRST TRINITY HORIZON WELL IN COTTON VALLEY

SHREVEPORT, La., Mar. 27.—Cotton Valley's first producer of commercial importance from the Trinity horizon blew in while bailing Ohio Oil Co.'s No. 38 Bodcaw in the SW cor. SE, Section 15-21-10. They had set liner, washed and bailed down 200 feet when it came in with an estimated 3,000 bbls. of 42 gravity oil and 15,000,000 feet of gas. Total depth is 4,683 feet. Production is coming from a true sand as found at around 3,900 feet in the Trinity wells of Pine Island, approximately 30 miles west. Tested at 4,600 feet it made 300,000 feet of gas and again at 4,649 feet it tested 600,000 feet in broken sand and shale in both instances, the break from anhydrites coming between 4,459 and 4,600 feet. The

(Continued on Page 186)

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Seminole Down to 286,992 Barrels

Chief Decline at Earlsboro. Wells Now Drilling South of Little River to Reach Interesting Depth in Two Weeks

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

The five pools of the Greater Seminole area have remained below the 300,000 per day mark all week, with a new low figure of 286,992 bbls. being made on Monday of this week. Earlsboro is the pool which is declining the most rapidly, and further drops may be anticipated in this pool. Wells on the edge of the Earlsboro Field are slowly being abandoned, three more being plugged last week.

The 10 test wells now drilling south of the Little River Pool are making good progress, but have not yet reached the interesting stage; the deepest is now 3,200 feet, at which little information may be revealed regarding structural position. These wells should reach the lower Caney formation within the next two weeks, at which time some rough idea of subsurface conditions may be available.

The two wildcat producing wells south of the Little River Pool are holding their output well, but the Snowden & McSweeney well in Section 13-7-6 is cutting slightly. This well is making 3,200 bbls. daily, which is cutting 4 per cent at the well, and is treated and allowed to settle out. After settling, the oil is running three-quarters of 1 per cent cut. The Independent Oil & Gas Co. and Highway Oil Refining Co.'s well in Section 23-7-6 is making 2,700 bbls. daily, free from water. The well will be drilled deeper this week.

There were no wells of unusual output completed last week in the Greater Seminole region. The Amerada Petroleum Corp.'s No. 1 Gravel, SW cor. SE NE Section 1-8-4, an interesting wildcat, is drilling in the Sylvan shale at 4,231 feet, little change from last week's report, and no difference in structural position which remains constant with the dry hole drilled by the Tidal Oil Co. in Section 3-8-4.

St. Louis-Pearson Switch Area

The most interesting part of the south country at this time is the St. Louis-Pearson-Switch area which attained prominence by the finding of good production in the Hunton lime and the Simpson sand. There are three producing wells in this area which are being observed, the McCulloch Oil Co. and Mid-Continent Petroleum Corp.'s No. 1 Smith, NW cor. SE Section 25-7-4; the Gypsy Oil Co. and Westheimer & Daube's No. 2 LeClaire, in Section 23-7-4; and the Magnolia Petroleum Co.'s No. 2 Robbins, in Section 15-7-4. These wells form a line running southeast-northwest, and much is expected from the intervening leases. The first two wells are producing from the Simpson sand, and the last from the Hunton lime. The output of the wells on Monday of this week is: McCulloch-Mid-Continent, 1,757 bbls.; Gypsy and Westheimer & Daube, 1,650 bbls.; Magnolia, 2,817 bbls.

The first two wells are holding up well, but the Hunton lime well of the Magnolia company is showing a heavy decline. Last week this well was making 3,800 bbls daily.

In the field there is one point noteworthy of interest, and that is that many of the companies are increasing their pumping operations in the Greater Seminole area. The tendency is running towards pumping more wells instead of allowing them to make their output by means of the air-gas lift. This has to a large extent been caused by the limited production of some wells, and the fact that many companies are unable to operate their lift equipment with a satisfactory degree of efficiency on small wells. There have been three distinct instances where small wells removed from the lift method yielded more oil when placed on the pump.

Osage Fields

With a sale of Osage oil and gas leases pending, much interest was shown in that part of the State, and the roads of the Osage fields were dotted with cars last week while the geological and scouting forces of the companies subjected the tracts which will be offered to a check. The two wells in the Naval Reserve were the most closely observed. Kay County Gas Co.'s No. 3, SW cor. SE SE Section 9-23-7, dropped considerably in output, and the first part of last week was making 1,113 bbls., and the latter part of the week 720 bbls. daily. This well is still cutting 2 per cent b.s. No. 2, NE cor. SW Section 22-24-7, is flowing 1,080 bbls. daily with no water.

Lovell Area

Production in the deep sand Lovell area of Logan County is little changed. The list of producing wells is given below:

Roxana Petroleum Corp.:	
Freelove	2,525
McCulley	1,985
Ross	551
Williams	239
Total	5,300

It is reported that the Bolene Refining Co. of Enid will construct a 4-inch pipe line from the Lovell Field to connect with its present pipe-line system running to its refinery at Enid. This will necessitate a new line of some 15 miles.

Leasing activity in the southwest territory continues. The wildcat leasing program is slowing up, but through Canadian and Kingfisher Counties there is some purchasing of 10-year leases for a bonus reported at $2 per acre. There have been two magnetometer parties working this region.

Shallow sand operations around the city of Muskogee in Muskogee County have resulted in that area being termed "Little Seminole." The most interesting wells in this section are Decius & Garrett's No. 1 Townlot, located about SE cor. NE SW Section 6-14-19. This well had a sand 505-522 feet, and is flowing at half-hour intervals, making around 250 bbls. daily. It will be shot. There are now five new wells in this area making about 2,000 bbls. daily.

Recent completions in this pool are Hale-Ford's No. 3 Townlot, which is making 400 bbls. daily. The sand record on this well is not available.

Greater Seminole Production

The production of the Greater Seminole area by companies and leases for the 24 hours ending Friday morning, March 23, is given below:

Little River Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Nitey	2- 7-6	3	2,875
Amerada-Wilcox:			
Fore	35- 8-6	2	875
Barnsdall:			
Hotulke	22- 7-6	1	40
Blackwell:			
Nitey	35- 8-6	6	2,414
Carter:			
Fish	36- 8-6	6	1,625
Jackson	11- 7-6	1	795
Continental:			
Cosar	36- 8-6	3	1,850
Gypsy:			
Brown	33- 8-6	1	50
Campbell	36- 8-6	2	227
Mungee	1- 7-6	1	27
Pott'e	35- 8-6	3	482
Independent:			
Harris	23- 7-6	1	2,684
Davis	2- 7-6	2	1,815
I. T. I. O.:			
Campbell	1- 7-6	1	113
Dungan	35- 8-6	3	2,523
M. A. House	1- 7-6	1	242
W. E. House	1- 7-6	1	22
W. E. House "B"	2- 7-6	3	1,587
Hull	26- 8-6	1	48
Jackson	1- 7-6	3	2,026
McCulla	1- 7-6	3	924
Nitey	2- 7-6	7	1,361
Phoebe "A"	36- 8-6	3	871
Phoebe "B"	36- 8-6	4	307
Reed	1- 7-6	1	114
Soketheche	1- 7-6	4	946
Magnolia:			
Cruse	2- 7-6	1	525
Dixon	31- 8-7	1	26
Pottie	35- 8-6	4	1,006
Mid-Continent:			
Smith	5- 7-7	1	35
Wadsworth	36- 8-6	7	1,007
Pine-Phillips:			
Pottie	35- 8-6	2	882
Prairie:			
Chilcoat	25- 8-6	1	1,080
Dungan	35- 8-6	2	96
House	2- 7-6	4	2,064
Roxana:			
Smith	1- 7-6	1	7
Shaffer:			
Narcome	36- 8-6	1	110
Sinclair:			
Cosar	36- 8-6	2	1,596
Snowden-McSweeney:			
Tiger	13- 7-6	1	3,197
Superior:			
Soketheche	1- 7-6	1	16
Texas:			
Coker	1- 7-6	1	580
Tidal:			
House	1- 7-6	3	1,000
Johnson	1- 7-6	1	75
Total		103	40,140

Maud Pool

Barnsdall:			
Fife	14- 8-5	1	350
I. T. I. O.:			
State	16- 8-5	1	6
Total		2	356

Bowlegs Pool

Amerada:			
Roscoe	15- 8-6	8	1,954
Atlantic:			
Baker	10- 8-6	4	530
Fleet	23- 8-6	3	563
Grayson	13- 8-6	4	760
A. Jones	16- 8-6	3	95
C. Jones	9- 8-6	2	173
Barnsdall:			
McNac	28- 8-6	1	24
Murrow	11- 8-6	4	932
Carter Oil:			
Bowlegs	15- 8-6	4	1,520
Burden	23- 8-6	3	285
Harjoche	14- 8-6	6	700
Hilly	23- 8-6	3	945
Jones	11- 8-6	4	1,425
McGeisey	21- 8-6	1	20
Melissa	9- 8-6	1	155
Walker	15- 8-6	4	555
Wise	23- 8-6	12	3,450
Empire:			
Lacy	14- 8-6	6	589
Wise	23- 8-6	2	467
Gypsy:			
Bowlegs	22- 8-6	1	160
Bradley	9- 8-6	1	....
Cumsey	10- 8-6	4	1,455
Doser	7- 8-6	1	190
Grayson	13- 8-6	4	975
Harjoche	10- 8-6	2	3,272
Jones	11- 8-6	1	292
Walker	15- 8-6	8	1,970
Wise	23- 8-6	3	297
I. T. I. O.:			
Barnett	24- 8-6	2	366
Barnett "B"	23- 8-6	1	242
Billington	22- 8-6	5	966
Bowlegs	22- 8-6	11	1,523
Davis	13- 8-6	4	1,270
Fay	13- 8-6	9	2,442
Goforth	15- 8-6	12	1,652
Livingston	15- 8-6	11	3,275
Lizzie	13- 8-6	2	502
Walker	15- 8-6	8	893
I. T. I. O.:			
Wilmott	15- 8-6	4	694
Work	24- 8-6	1	151
Youngblood	24- 8-6	2	59
Magnolia:			
Davis	13- 8-6	3	628
M. Davis	13- 8-6	1	300
Hammond	10- 8-6	3	196
Rhodes	12- 8-6	3	4,503
Van Buskirk	9- 8-6	1	363
McCulloch:			
Bowlegs	22- 8-6	2	378
Mid-Continent:			
Baker	10- 8-6	4	1,463
Bowlegs	22- 8-6	1	10
Smith	12- 8-6	6	585
Minnehoma:			
Bowlegs	15- 8-6	4	276
Prairie:			
Gahagan	23- 8-6	4	445
Harber	10- 8-6	8	3,780
Jones	11- 8-6	4	360
Templeton	12- 8-6	6	3,695
Whitney	23- 8-6	4	833
Pure Oil:			
Reed	14- 8-6	15	2,820
Strother "D" 11 &14-	8-6	4	516
Strother "F"	10- 8-6	4	1,737
Roxana:			
Taylor	16- 8-6	5	640
Shaffer:			
Lacy	14- 8-6	3	360
Sinclair:			
Bowlegs	22- 8-6	1	65
Cumsey	10- 8-6	4	4,487
Ellen	11- 8-6	7	1,335
Harjo	14- 8-6	3	710
Jones	9- 8-6	6	4,060
Taylor	10- 8-6	4	2,733
W. Taylor	10- 8-6	1	1,365
Walker	22- 8-6	4	1,030
Texas:			
Reed	14- 8-6	11	2,985
Tidal:			
Grayson	13- 8-6	4	850
Harjoche	10- 8-6	6	1,785
Twin States:			
Jones	11- 8-6	3	97
Total		311	81,771

Earlsboro Pool

Amerada:			
Anderson	15- 9-5	5	1,265
Cowden	4- 9-5	8	1,630
Rogers	3- 9-5	2	616
Atlantic & Sinclair:			
Foreman	18- 9-5	1	184
Barnsdall:			
Brown	10- 9-5	4	2,123

WILDCAT OPERATIONS IN OKLAHOMA

NORTHERN OKLAHOMA

GRANT COUNTY

Otstot Development Co.'s No. 1 Snyder, NE cor. NE Sec. 6-28-3w — Cleaning out.

J. V. Bailey and others' No. 1 Maddox, C SE Sec. 13-27-5w — Estimated 2,000,000 gas, spray oil 4,835-42 ft.; cleaning out.

Thraves and others' No. 1 C. D. Fuss, SW cor. NW NW Sec. 30-27-4w — Abandoned 1,230 ft.

Burns & Beasley's No. 1 Bolsterton, SW cor. NW SW Sec. 24-27-3w — Rig abandoned.

Brasil & Moses' No. 1 Goutier, SW cor. NW Sec. 34-26-4w — Shut down for pipe 650 ft.

Lambert and others' No. 1 Tabor, SE cor. NE SE Sec. 23-26-3w — Abandoned after spudding.

Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w — Fishing 5,640 ft.

HARPER COUNTY

Kopisch Oil Co.'s No. 1 Johnson, NE cor. SE Sec. 24-27-21w — Rigged up and shut down.

Hoffer Oil's No. 1 Cooper, NW cor. SE SE Sec. 12-25-22w — Shut down 4,130 ft.

WOODS COUNTY

Sooner State Oil Co.'s No. 1 Marcum, C SW Sec. 20-27-15w — Spudded and shut down.

Victor Oil Co.'s No. 1 Buskirk, SW cor. SE Sec. 10-26-15w — Hole full water, 775-800 ft.; shut down 900 ft.

McCray Oil & Gas Co.'s No. 1 Whitney, NE cor. NW SE Sec. 19-24-14w — Shut down 1,880 ft.

KAY COUNTY

Boucher and others' No. 1 Cooper, SE cor. SE Sec. 23-27-2w — Drilling 2,200 ft.

Ponca Lee Oil's No. 1 McNeil, NW cor. NE Sec. 32-26-2e. — Shut down 2,795 ft.

Tonkawa Development Co.'s No. 1 McDaniels, SE cor. SE Sec. 15-25-1w — Drilling 4,630 ft.

Corley and others' No. 1 Williams, SE cor. NE SW Sec. 7-21-1w — Shut down for casing 1,930 ft.

WOODWARD COUNTY

Otstot Development Co.'s No. 1 Simmons, SE cor. SE Sec. 32-24-17w — Shut down for pipe 1,430 ft

Wight & Wahl's No. 1 Williams, C NW Sec. 16-23-20w — Rig.

Randau & Mooney's No. 1 Parker, SE cor. NE NW Sec. 4-23-16w — Shut down 1,092 ft.

Sharon Oil Co.'s No. 1 Elmore, SW cor. SW Sec. 25-21-21w — Shut down 2,772 ft.

Burgoyne Brothers' No. 1 Barnes, SW cor. SE NE Sec. 15-21-19w — Drilling 700 ft.

Wight & Wahl's No. 1 James, C NW, Sec. 16-23-20w — Rig.

GARFIELD COUNTY

E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w — Hole full water 4,650 ft., shut down 4,720 ft.

(Continued on Page 133)

Times like these test the earning capacity of every refiner's equipment

When gasoline was fetching a nice price almost any cracking process—even skimming processes and pipe stills—may have been adequate

Now, only that process which delivers marketable gasoline at lowest cost with other good marketable by-products can be of any real help and then only if the cost of gasoline is less than when produced by distilling or skimming crude

In accomplishing this result the Dubbs Cracking Process with Flashing System stands alone

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

F. Bruner	2- 9-5	2	854
N. Bruner	10- 9-5	4	1,604
Cudjo	14- 9-5	1	26
D. Davis	11- 9-5	3	746
J. Davis	11- 9-5	4	808
M. Davis	11- 9-5	3	104
Gibson	9- 9-5	8	2,954
Hern	15- 9-5	1	6
Ingram	1- 9-5	7	3,265
S. Pack	10- 9-5	4	193
Peter	10- 9-5	4	371
Sango	1- 9-5	3	6,375
Sebolka	15- 9-5	1	621
H. Sullivan	11- 9-5	1	....
Sul-Harjo	10- 9-5	2	59
Wasutke	12- 9-5	4	1,715
Carter:			
Davis	13- 9-5	2	590
Payne	12- 9-5	3	130
Sango	1- 9-5	4	2,735
Continental:			
Kays	2- 9-5	2	215
Spencer	12- 9-5	1	755
Crosbie:			
Bryant	9- 9-5	2	....
Empire:			
Barker	12- 9-5	1	1,142
Edmondson	3- 9-5	3	1,163
Gypsy:			
Bora	16- 9-5	1	15
Bruner	10- 9-5	4	3,077
B. Carter	11- 9-5	9	3,522
Earl	16- 9-5	1	17
Hunick	5- 9-5	1	2,280
Noble	12- 9-5	4	3,240
Peter	10- 9-5	3	197
Sango	1- 9-5	5	4,662
State	16- 9-5	4	1,102
Independent:			
Bruner	10- 9-5	4	287
Sullivan	10- 9-5	3	144
Knapp	8- 9-5	1	2,023
Independent-Margay:			
Gains	11- 9-5	4	1,135
Interocean:			
Payne	12- 9-5	1	....
Magnolia:			
Bryant	9- 9-5	6	2,156
Cowden	4- 9-5	4	80
Dixon	12- 9-5	1	30
Edmondson	3- 9-5	3	30
Holmsley	11- 9-5	8	1,940
Ingram	10- 9-5	1	30
Lena	10- 9-5	3	80
Seay	12- 9-5	9	4,159
Simpson	10- 9-5	3	279
Sparks	11- 9-5	7	1,298
Sullivan	12- 9-5	3	133
Mid-Continent:			
McCumber	9- 9-5	7	365
Mid-Kansas:			
Anderson	14- 9-5	3	90
Phillips:			
Dunaway	14- 9-5	1	30
Gram	9- 9-5	4	178
Prairie:			
Baker	24- 9-5	1	50
Davis	13- 9-5	5	3,935
C. Graham	3- 9-5	2	25
O. Graham	10- 9-5	4	1,675
Stidham	11- 9-5	13	4,490
Roxana:			
Bayless	17- 9-5	1	14
Spencer	12- 9-5	2	1,950
Shaffer:			
Clark	1- 9-5	6	1,023
Sinclair:			
Foreman	18- 9-5	1	15
Hollins	12- 9-5	2	130
Sango	2- 9-5	2	3,970
Skelly:			
Spencer	12- 9-5	1	649
Texas:			
Anderson	2- 9-5	6	650
Brown	10- 9-5	8	2,160
Rogers	5- 9-5	4	3,865
Wilmott	10- 9-5	7	2,805
Tidal:			
Watkins	9- 9-5	8	3,045
Twin States:			
Barker	12- 9-5	4	90
Hern	2- 9-5	4	2,353
Total		282	97,928

Seminole Pool

Amerada:			
Fixico	23- 9-6	4	863
Killingsworth	23- 9-6	4	543
Rentie	23- 9-6	3	666
Atlantic:			
N. Cudjo	35- 9-6	3	320
Barnsdall:			
Carter	24- 9-6	8	1,864
Henry	14- 9-6	2	549
Jones	34- 9-6	4	980
Carter Oil:			
B. Carter	24- 9-6	2	200
F. Carter	23- 9-6	3	105
J. Carter	24- 9-6	3	30
Creamer	34- 9-6	2	30
R. Cudjo	35- 9-6	4	225
W. Cudjo	34- 9-6	2	30
Gilliland	27- 9-6	1	290
Grisso	23- 9-6	5	600
M. Grisso	15- 9-6	1	385
G. F. Killings	14- 9-6	4	480
M. E. Killings	23- 9-6	12	6,670
Knapp	13- 9-6	4	37
Lukes	27- 9-6	6	1,300
Founder	34- 9-6	2	50
Simpson	35- 9-6	3	47
Strothers	34- 9-6	4	405
Vierson	23- 9-6	3	385
Empire:			
Gross	25- 9-6	3	90
Wilson	34- 9-6	2	288
Gypsy:			
Butler	35- 9-6	4	1,207
Carter	24- 9-6	8	562
Cudjo	34- 9-6	5	497
Fixico	26- 9-6	7	200
Harjo	25- 9-6	3	1,122
Wolfe	26- 9-6	6	200
Independent:			
P. Fixico	23- 9-6	3	300
Harjo	25- 9-6	3	150

KANSAS WILDCATS

BARBER COUNTY

Barbara Oil Co.'s No. 1 Blunk, C NE NW Sec. 20-34-13w.. Drilling 2,660 ft.
G. W. Basom's No. 1 Grant, SW cor. SE SW, Sec. 13-31-3 .... Drilling 789 ft.
Otstot et al's No. 1 Barlow, SE cor. SE Sec. 22-23-3w .... Shut down 1,860 ft.
Rolland and others' No. 1 Pickens, NE cor. NW NE Sec. 27-30-14w .... Shut down 3,196 ft.
J. K. D. Shaffer's No. 1 Carter, C SE SE Sec. 2-33-13w.. Fishing 3,980 ft.
J. K. D. Shaffer's No. 1 Boggs, SW cor. NE SW Sec. 19-33-12w .... Shut down 5,035 ft.
Skelly Oil Co. and others No. 1 Winter, CE half Sec. 17-31-12w .... Drilling 3,550 ft.

BARTON COUNTY

Everett & Wiley's No. 1 Ward, NW cor. SW Sec. 12-20-13w .... Shut down 3,346 ft.
Huffine and others' No. 1 Smith, NE cor. SE NW Sec. 17-19-11w .... Shut down 5,130 ft.
McJilton and others' No. 1 Evanston, SE cor. NW Sec. 34-17-11w .... Rig.

BUTLER COUNTY

Cross & Frank's No. 1 Bryson, NE cor. NE Sec. 26-27-5.. Drilling 1,910 ft.
Empire Gas & Fuel Co.'s No. 1 Semisch, NW cor. SE NW Sec. 4-33-7 .... Dry and abandoned 2,732 ft.
La Robb and others' No. 1 Bronsenger, NE cor. SW Sec. 24-27-3 .... Rig.
Joe Ligge.t's No. 1 Travender, NW cor. SE Sec. 24-23-6 Drilling 2,530 ft.
White Eagle Oil & Refining Co.'s No. 1 Dixon, NE cor. SE SW Sec. 1-27-6 .... Hole full of water 3,089-3,105 ft.; shut down.
H. F. Wilcox Oil & Gas Co.'s No. 1 Littell, NE cor. SE NW Sec. 21-29-4 .... Collapsed casing 1,453 ft.; shut down.

CHASE COUNTY

Griener & Fowler's No. 1 Carson, NE cor. NE Sec. 9-21-7 .... Shut down 2,025 ft.

CLARK COUNTY

Skelly Oil Co. & Merriam's No. 1 Winter, C E half Sec. 17-31-12w .... Drilling 3,512 ft.
Walter & Warner's No. 1 Mitchell, SW cor. NE Sec. 16-31-23w .... Shut down 600 ft.

CLOUD COUNTY

Concordia Producing & Refining Co.'s No. 1 Murdock, SE cor. SE Sec. 6-6-4w .... Fishing 3,590 ft.

COWLEY COUNTY

Allison & Fitzwilliams' No. 1 Shapland, NE cor. NW SE Sec. 20-30-6 .... Shut down 790 ft.
Barnsdall Oil Co.'s No. 1 Russell, NE cor. NW SE Sec. 15-33-4 .... Drilling 825 ft.
Derby Oil Co.'s No. 1 Seaman, NE cor. SE NE Sec. 32-30-3 .... Drilling 2,802 ft.
John Herron and others' No. 1 Marshall, SW cor. NE Sec. 36-30-6 .... Shut down 1,645 ft.
Meridian Gas Co.'s No. 1 Roselle, SW cor. SE Sec. 8-35-1.. Drilling 2,010 ft.
Otstot et al's No. 1 Volker, NW cor. NE Sec. 9-35-1.... Rig.
Harris & Hahn's No. 1 Gamble, C NW NW Sec. 17-35-2 .... Shut down 1,400 ft.
E. B. Shawver and others' No. 1 Disser, NW cor. NW Sec. 10-34-3 .... Drilling 1,910 ft.
E. B. Shawver's No. 1 Mullett, C NW SE Sec. 31-34-3.... Drilling 1,290 ft.
Vickers Petroleum Co.'s No. 1 Daniels, NE cor. NW Sec. 3-30-2 .... Drilling 1,640 ft.
E. B. Shawver's No. 1 Mullett, C NW SE Sec. 31-34-3; gas rights only .... Spudded and shut down.

DICKINSON COUNTY

McBride & Goens No. 1 Shirley, NE cor. SW Sec. 21-12-4 .... Dry and abandoned 2,469 ft.

ELLIS COUNTY

Derby Oil Co.'s No. 1 Weigel, C NW Sec. 25-2-17w.... Drilling 675 ft.
J. H. Tatlock et al's No. 1 Leiker, NW cor. NE NE Sec. 26-13-16w .... Drilling 3,410 ft.
R. H. Hood and others' No. 1 Butler, C SE SE Sec. 15-
R. H. Hood and others' No. 1 Butler, C SE SE Sec. 15-26-11 .... Sand 608-627 ft.; 2,000,000 ft. gas.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, SE cor. NE SW Sec. 27-8-25w .... Shut down 3,460 ft.

(Continued on Page 166)

LOST SPRINGS POOL IN KANSAS PROBABLY EXTENDED TWO MILES

By J. L. Dwyer
Staff Correspondent, Kansas Fields.

A well in the Lost Springs district of Marion County which may extend that pool for 2 miles to the southeast was the most interesting news from Kansas last week. The well is Graham Brothers and the Gilliland Oil Co.'s No. 1 Nelson, NE cor. SE, Section 30-17-5, some 2 miles to the southeast of the Townsite Pool. It had the regular chat at 2,294-2,332 feet, and has 300 feet of oil standing in the hole, and will probably make a well. It may be shot.

The production by wells of the Lost Springs Pool giving the daily average output for the week ending March 24 is given below:

Phillips Petroleum Co.

	Bbls.
1 Wells Rezineck	85
1 T. Rezineck	100
1 Peterson	138
1 McCoy	121
2 McCoy	84
1 Mowrer	29
1 Frank	16
3 Rezineck	24
3 Peterson	51

Prairie Oil & Gas Co.

1 Mowrer	92
1 Rezineck	101

Lariaux and Others

1 Barnes	90
1 Shoup	71
1 Peterson	74
1 Merrillat	121
1 Fowler	75

Ward and Others

1 Layton	401

Reynolds and Others

1 Netrourer	73

Independent Oil & Gas Co.

1 Bevans	71

Sinclair Oil & Gas Co.

1 Bevans	90

Braden and Others

1 Smith	24

Harwood & Winters

1 Ucker	9
Total	*1,561

*From 22 wells.

Oxford Townsite

In the Oxford Townsite, the Roxana Petroleum Corp.'s No. 2 Barnes, which caused such a sensation last week when it started flowing 4,000 bbls. daily is decreasing in output, and is now reported making 2,800 bbls.. The rapid rate of drop in output has resulted in a more careful consideration of the territory to the southwest of this well. It is now considered somewhat freakish in nature.

(Continued on Page 116)

Butler	35- 9-6	3	810
Independent:			
T. Fixico	26- 9-6	8	800
Jones	26- 9-6	4	430
I. T. I. O.:			
Allen	25- 9-6	2	441
Bowlegs	26- 9-6	12	2,943
Goodin	23- 9-6	4	418
Harjo	23- 9-6	3	115
James	24- 9-6	2	263
Reed	24- 9-6	2	26
Kingwood:			
Johnson	22- 9-6	3	1,272
Magnolia:			
Boren	2- 8-6	1	44
Franks	25- 9-6	4	366
Mid-Continent:			
Rentie	14- 9-6	9	960
Tayeche	24- 9-6	7	275
Mid-Kansas:			
Johnson	25- 9-6	2	131
Phillips:			
Strothers	27- 9-6	2	150
Prairie:			
Gross	25- 9-6	5	125
Mason	36- 9-6	1	85
Spencer	13- 9-6	1	13
Strothers	27- 9-6	8	1,535
Pure Oil:			
Strothers	26- 9-6	17	5,343
B. Strothers	36- 9-6	5	1,873
C. Strothers	34- 9-6	1	321
Roxana:			
Harber	22- 9-6	2	300
Lasley	22- 9-6	2	27
Sinclair:			
Carter	13- 9-6	2	27
Cudjo "A"	35- 9-6	6	800
Cudjo "B"	35- 9-6	4	900
Dicey	22- 9-6	2	1,255
Fixico	23- 9-6	4	670
Slick:			
Cudjo	35- 9-6	3	750
Franks	35- 9-6	6	1,633
Giblet	35- 9-6	3	1,886
Tiger	1- 8-6	1	71
Superior:			
Cudjo	35- 9-6	4	643
Texas:			
Mayhue	14- 9-6	1	305
Strothers	2- 9-6	1	125
Tidal:			
Carter	24- 9-6	4	755
Fixico	26- 9-6	6	900
Harjo	25- 9-6	3	720
T. Harjo	23- 9-6	7	200
Mahardy	24- 9-6	2	52
Turman:			
Cudjo	35- 9-6	4	1,062
Grisso	35- 9-6	1	325
Jones	34- 9-6	4	1,487
Total		310	55,302

Searight Pool

Amerada:			
Johnson	4- 9-6	1	70
Strothers	3- 9-6	2	1,142
Carter:			
Davis	4- 9-6	7	900
Frazier	3- 9-6	6	2,995
Johnson	3- 9-6	1	2
Kiker	2- 9-6	1	25
Mandler	3- 9-6	2	25
Scott	26-10-6	1	20
Gypsy:			
Cudjo	4- 9-6	3	787
Mid-Continent:			
Grayson	34-10-6	6	60
Davis	33-10-6	4	1,860
Pine:			
Lula	4- 9-6	1	30
Prairie:			
Cannon	33-10-6	1	10
J. Carter	10- 9-6	1	17
Houch	33-10-6	1	5
Kincaid	33-10-6	5	70
Varnum	5- 9-6	1	....
Wimer	22-10-6	1	20
Pure:			
Aldridge	3- 9-6	6	2,921
Roxana:			
Strothers	3- 9-6	4	1,530
Sinclair:			
Polly	3- 9-6	4	1,800
Superior:			
Varnum	4- 9-6	1	62
Texas:			
Fleet	4- 9-6	1	62
Twin States:			
Varnum	4- 9-6	2	395
Wilcox:			
Chupco	4- 9-6	8	2,530
Total		71	17,418

Totals

Little River	103	46,149
Maud	2	85
Bowlegs	311	81,771
Earlsboro	282	97,928
Seminole	310	55,302
Searight	71	17,418
	1,079	292,913

Caddo County

English Drilling Co. is skidding the rig from No. 1 to drill No. 2 Jacobs, NW cor. SE, Section 22-6-10w. No. 1 Jacobs, NW cor. SE, Section 22-6-10w, has been abandoned at 3,540 feet.

Carter County

Roxana Petroleum Corp.'s No. 1 Carter, SE cor. SW SW, Section 14-1s-3w, an old well, is drilling deeper at 2,580 feet. No. 2 Denny, NE cor. SW SW, Section 20-1s-3w, is rigging up rotary tools. Cotton Belt Petroleum Co. has erected the rig for No. 6 Rexroat.

Cimarron County

Sinclair Oil & Gas Co.'s No. 1 State Land, NE cor. Section 22-5-2ecm, has been abandoned at 4,872 feet.

Creek County

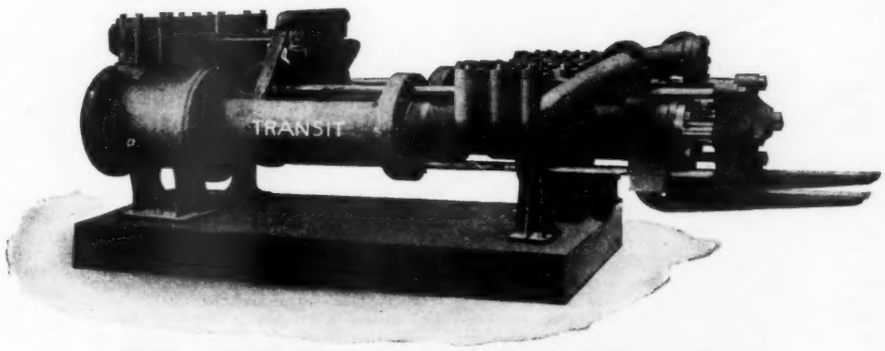
Pioneer Petroleum Co. has the rig up for No. 5-A Bucktrot, NW cor. SW NE, Section 24-17-10. J. H. Winemiller Corp. has moved a machine out for No. 3 Dee Nun, NW cor. SE SE NW, Section 4-17-11. Barnsdall Oil Co.'s No. 3 Winn, SW cor. NE SE, Section 28-15-9, an old well, is rigging up to deepen from 2,903 feet. Woodland Oil Co. made location for No. 1 Manuel, NW cor. SW, Section 15-19-7. Silurian Oil Co. made location for No. 1 Benson, NE cor. SE NE, Section 30-17-7.

Dixie Oil Co.'s No. 2 Tahkaney, SW cor. SE SE, Section 7-19-9, has been completed for 320 bbls. in Wilcox sand at 2,859-71 feet. Roxana Petroleum Corp.'s No. 5 Sewell, NW cor. NE NE, Section 18-19-9, had Wilcox sand at 2,856-70 feet and made 725 bbls. after a shot of 30 quarts. S J. Smith and others' No. 3 S. Fife, NE cor. SW NW SW, Section 3-17-11, is dry and abandoned. Winemiller Oil Corp.'s No. 2 Denun, SW cor. NE, Section 4-17-11, is dry and abandoned at 1,570 feet.

Irelan and others' No. 3 Inman, SE cor. SW SW SW, Section 9-17-11, is dry and abandoned at 2,948 feet in Turkey Mountain sand. Pennok Oil Co. and others' No. 14 Fulsom, SW cor. NE, Section 5-16-11, is dry and abandoned at 2,755 feet. Burlingane & Sharp's No. 15

(Continued on Page 115)

A Plunger Pump
for your
Dirty Work



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In a piston pump, due to the fluid piston rod moving into the rod packing at the time of greatest pressure in the cylinder, some of the grit and dirt is carried into the packing and stays there to wear the rod gradually. Tightening the packing aggravates the wear.

In a plunger pump, the displacement of the plunger does the pumping. The direction of travel of the plunger is away from the packing when the pressure in the cylinder is highest. Thus grit and dirt is kept away from the packing, and wear is kept to the very minimum.

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Heavy Saturation in Webb County Well

Cole Co.'s No. 54 Benavides Expected to Be Good Well. Dale Field in Caldwell County Is Looking Better

By B. D. Stevenson
Staff Correspondent, Southwest Texas

SAN ANTONIO, Tex., Mar. 26.—Cole Petroleum Co. operations on Survey 412 of Webb County in the Laredo district and the getting of better production in the Dale Field in Caldwell County continue to be of principal importance in proven territories in Southwest Texas. Cole Petroleum Co.'s No. 54 Benavides in Block 5 of Survey 412, located a little west of No. 46, has the sand at 2,323-29 feet and core shows a heavy saturation of oil. Casing has been set and the well should be in within a few days. No. 46, which was one of the first drilled to the north, was a small well, due probably to the manner in which it was completed. Since then experience gained in the field has enabled the company to complete Nos. 51, 52 and 53 off to the northwest a few hundred feet and get much better wells. No. 51 which is in the NW cor. of Block 5, Survey 412, was completed early in February and last week on a small choke was making a little gas and about 125 bbls. of oil a day. The gas pressure was 280 pounds. As the gas pressure subsides the oil production increases on these wells. No. 53 has been looking somewhat better than the others. All are on a small choke to save the No. 54 which will soon be drilled to get the sand about 10 feet higher than No. 46 which is a little east of it and there is a feeling that it will make a good well. Oil in this new field is 21 gravity and free from water. Excepting some acreage a little to the east Cole Petroleum Co. owns nearly everything. Magnolia Petroleum Co. has a block to the east of Survey 412 and if the Cole Petroleum Co. keeps on getting good wells Magnolia Petroleum Co. may feel inclined to drill. Magnolia Petroleum Co. completed a gas well 150 feet east of the center of the east line of Block 13, Survey 412, offsetting the Cole Petroleum Co.'s No. 47 Benavides, a gasser.

Dale Field

In the Dale Field in Caldwell County it is evident that there is more to learn. The field looked insignificant a few months ago. Sun Oil Co. shot a well on the Talley lease that was not making much and made a good well of it. The Texas Company last week completed No. 8 Clingensmith in the extreme south corner of the Squire Damon Survey at regular depth of the field and got a well that makes 52 bbls. on the pump. It is in the center of production. The Texas Company completed the No. 3 Osteen off on the edge of the field in the W. C. Swearingen Survey and offsetting the Sun Oil Co.'s No. 3 Talley, a small well, and it came in flowing making 170 bbls. the first 21 hours but since has considerably increased over that. The Texas Company has some other wells drilling in the field.

In approximately the center of the Charles M. Cannon Survey and over 2½ miles southwest of the center of production Trinity Drillers and associates are drilling No. 1 Miears and are down a few hundred feet. There is a circle of dry holes about 1 mile or more distant from the new test, some between it and the Dale Field. Geologists believe there is a chance for another Serpentine plug to be located inside of the circle of dry holes and will try and find it.

Driscoll Area

In the Driscoll area in Duval County No. 11 fee is down 1,400 feet and drilling. No. 9 which had a showing at around 3,000 feet, 600 feet deeper than in the discovery well, is shut down and the only news from that field of interest will be the completion of No. 11 which is southwest of the discovery well. National Petroleum Co. is down 2,200 feet in its No. 1 Ball, a few miles east of the Driscoll wells and it will be interesting to know whether it picks up the same sand. Edward St. Albans is all rigged up and about ready to spud in his No. 1 Hyatt in Block 25 of the Sweden farm tracts, a mile or more northeast of Driscoll.

There are a few little spasmodic pickups in activity throughout the country. W. R. Duke in the Charco Redondo Pool in the southern part of Zapata County where they get sand at from 160 to 250 feet is starting to drill some additional wells. He will drill seven to the shallow sand and one to 1,000 feet. This pool was discovered back in 1913 but development was very limited due to no transportation. Humble built a 55,000-bbl. tank in the field some months ago and will extend its line as soon as the tank is full.

In the Somerset Field in Bexar County, 20 miles southwest of San Antonio, Schimmell Production Co. has been about the only operator doing any drilling. He has drilled the outside locations on some of his leases in the eastern end of the field. He gave the field a big extension with a semiwildcat and now has been proving up his acreage and buying more and will continue to drill during this year.

Kingsville Disappointment

In the Kingsville Field there is disappointment that No. 5 Kleberg, a northeast offset to No. 2 Flato of the Humble Oil & Refining Co., failed to make a well at 2,835-53 feet. It is now at 2,937 feet and is not a well yet. No. 2 Flato, a small pumper, started flowing about New Year's Day and flowed around 1,000 bbls. a day. It was 2,928 feet deep and it was thought the new production came from above that depth due to the packer giving way. After six weeks it stopped flowing but is now back on production making around 175 bbls. a day. No. 5 Kleberg drilled to find where the oil in No. 2 Flato was coming from has failed to solve the problem. It is now deeper than No. 2 Flato. No. 3 Flato which made a lot of gas at 2,242 feet with tools lost in the hole and later went dead has sidetracked the tools and is drilling down to the old depth and will try and make a gas well. It is a quarter mile east of No. 2 Flato. These wells are in the SE of Section 40 of the Kleberg Town & Improvement Co. Survey of the King ranch. Recently the higher courts decided a suit settling the ownership of the SW of the same survey, deciding in favor of Jonas Weil of Corpus Christi on the ground that a gas well at around 1,400 feet in the NW of section completed a few days before the lease expired was really a commercial well. Weil has 90 days to start additional development. The quarter section has production also on the west of it and is a valuable lease. It means drilling soon.

COMPLETIONS

Caldwell County

The Texas Company's No. 8 Clingensmith, Squire Damon Survey, in the Dale Field, at 2,014 feet is a 52-bbl. pumper; No. 3 Osteen, W. C. Swearingen Survey, in the same field, during the first 24 hours made 170 bbls. of oil.

H. C. Ratcliffe's No. 1 J. L. Nev, James Hindes Survey, has been abandoned dry at 2,959 feet.

Bastrop County

Mrs. McMurtray's No. 1 B. L. Duran in the L. Flint Survey, has been abandoned at 2,950 feet showing sulphur water.

Guadalupe County

O. W. Killam's No. 1 J. W. Calvert Survey, 6 miles east of Seguin, has been abandoned at 2,290 feet showing sulphur water.

Starr County

Deckle & McCarley's No. 1 Garcia in Survey 918, has been abandoned dry at 3,000 feet.

Zapata County

William R. Jewell's No. 1 R. Hinnant, Survey 10, Block 4, has been abandoned at 1,768 feet after testing sand at 1,775 feet showing oil and salt water.

New Locations

Houston Oil Co.'s (Sun) No. B-1 Lopez, Survey 319, Block 4, in the Cole Field in Duval County, is rigging up to deepen from 1,710 feet.

W. R. Duke's No. 1-"B" J. M. G. Martinez, Block 17, Charco Redondo Pool in Zapata County, is drilling at 130 feet and will be a deep test.

Frank Koury's No. 1 Jones Weil, Survey 81, Block 9, Jim Hogg County, has derrick up.

M. K. Koenig's No. 6 Tiller, Luling Field in Caldwell County, is preparing to spud in.

Trinity Drillers' No. 1 Miears, Charles M. Cannon Survey, southwest of the Dale Field in Caldwell County, is drilling at 450 feet.

The Texas Company's No. 1, offsetting No. 1 Reed & LaPrelle well on the east and 500 feet north of the shore line on the Nueces side, is erecting derrick.

Houston Gulf Gas Co.'s No. 2 Lark E. W. B. Scrugham Survey, 155 feet to east line and 100 feet to north line of Subdivision 105, has derrick up and is moving in rig. Test is approximately 2,000 feet from Harper's No. 2 Nichols.

Magnolia Petroleum Co.'s No. 20 Rios in the Luling Field in Caldwell County, is location.

Harry Carter has derrick up for No. 1 Mayfield in the White Point territory.

Red Ant Oil & Gas Co. has resumed operations at 1,000 feet in No. 1 Perry & Chestnut in the B. Q. Hadley Survey in Bee County, temporarily abandoned last month at that depth, and has made 200 feet, having had 400 feet of tough gumbo with two slight showings of gas.

Cole Gas Field—Duval

Schott & Tafel's No. 1 Bruni, Survey 585, located 3,000 feet to NW cor. and 150 feet to west line, at 1,798-1,801 feet tested small amount of gas, at 1,801-04 feet tested salt water and small amount of oil and is now drilling deeper. Magnolia Petroleum Co.'s No. 2 Benavides corner of Blocks 146, 147, 194, and 195 is rigging up; No. 3 Benavides, corner Blocks 144, 145, 196, and 197, is location; No. 3 Benavides, Block 2, O'Hern & Seacord Subdivision, 200 feet to south west lines and 700 feet to northwest

(Continued on Page 165)

ADAMS GAS FIELD MAY BE EXTENDED BY SHOWING IN MEDINA COUNTY TEST

By B. D. Stevenson

SAN ANTONIO, Tex., Mar. 26.—Wildcat operations in Southwest Texas were slow but not without interest the past week. Pat Armstrong late in the week was in a cap rock at 971 feet in his No. 1 Mangold in Medina County, north of the Adams gas field, 1,200 feet north of the Southern Gas Utilities' No. 2 Schmidt at the east end of the field. The well was showing some gas and may prove up an extension of the field and not a wildcat. The Magnolia gas well about 1,200 feet east of No. 2 Schmidt is the farthest east producer in the field and twice a day it is opened to let the oil out. This is intensifying interest in that part of the field and if Armstrong's well should make some oil it would call for more drilling.

There has been more delay waiting for J. A. Harper to drill in his No. 2 Nichols in the western part of Live Oak County near the Calliham Field. It will probably be drilled in this week.

In the Laredo district Schott & Tafel tested a little gas and salt water at 1,804 feet in No. 1 Bruni in Survey 585, a little west of the O'Hern gas pool, but are continuing to drill, and William R. Jewell got salt water and quit at 1,768 feet in his No. 1 Hinnant in Zapata County in Block 4, Survey 10. Magnolia Petroleum Co. is drilling at 3,129 feet in its deep test in the Schott Field to explore unexplored sands and the same company's No. 1 Whitehead in northeastern Val Verde County is down 6,380 feet and the past week stood still. It has been in black shale for about 2,000 feet.

Durbin Oil Co.'s No. 1 Gohmert in DeWitt County south of Cuero at 2,980 feet has passed the depth where the Cuero Oil & Gas Co. got a showing of oil on the same farm. Durbin Oil Co. drilled expecting to pick up the same sand and make a well but it is 300 feet past where the sand ought to be and no showing of oil. It will probably not continue much deeper.

J. E. Rodgers east of San Marcos in Hays County, is changing to new tubing. At 2,189 feet he had a showing of oil and put some tubing in the hole to swab but failed. He is running new tubing and hopes to make a well. The well is No. 1 Hohenburg and it is in formations below the Edwards lime. It topped the Glenrose, it is thought at 971 feet and was believed to be in the top of the Trinity at 2,141 feet. There are some who believe it is in the top of the Pennsylvanian at the present depth. The well was started in the fall of 1925. It is pretty close to the Balcones fault line and in the opinion of some was too close but it has had a little showing of oil at the present depth.

Duval County

National Oil Co.'s No. 1 Ball, Survey 16, located 450 feet to north line and 150 feet to east line, is drilling at 2,200 feet. Houston Oil Co.'s No. 1 Woods-Welder, Survey 233, located 1,750 feet to west line and 100 feet to north line, is down 2,240 feet after coring sand at 2,236 feet.

Hidalgo County

D. L. Smith Oil Co.'s No. 5 Fernandez, Porcion 46, Block 34, located 125 feet to north line and 225 feet to west line, is drilling at 3,300 feet.

Jim Hogg County

M. I. Shaw and others' No. 1 Jones, Survey 381, Block 12, located 171 feet to south line and 486 feet to west line, is drilling at 1,801 feet.

Starr County

The Texas Company's No. 1 M. Guerra, Porcion 68, Block 91, located 1,000 feet

(Continued on Page 161)

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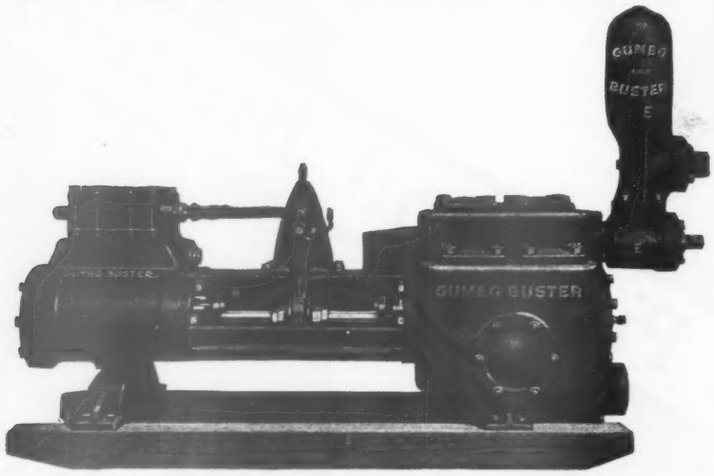

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New Gas Structure in Richland Parish

Six Miles North of Nearest Production. Indicated by Geophysical Work. Oil Line for Cartersville

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas.

SHREVEPORT, La., Mar. 26.—Completion by Gulf Refining Co. of No. 1 Ches Wymond, 660 feet east and 660 feet north SW cor. NW, Section 20-18-6, Richland Parish, opens a new gas structure in Richland Parish 6 miles north of nearest production in the older proven field and also demonstrates again the efficiency of geophysical surveys as they have been carried on in this part of the country, as the well was located on a "high," located and defined by such in the course of extensive exploration by the company during the past year or more. The well blew in while the crew was coming out with the drill stem and, blowing while connections were being placed, made an estimated 10,000,000 feet of gas with a spray of salt water.

Total depth of the hole is 2,693 feet with the bottom in broken shale and sand from 2,654 feet, but it has not been definitely determined whether the gas is coming from this formation as the wildcat had not been bailed since 2,382 feet and it could be coming from the regular Richland horizon at around 2,450 feet, 200 feet less than the depth of the new strike. The salt water may be coming from a sand at 2,391 feet, 6⅝-inch casing having been cemented at 2,295 feet.

The Gulf's No. 1 Millsaps, in Section 8-17-6, 4 miles south, blew in with an estimated 10,000,000 feet of gas while coming out with drill stem and caught fire, total depth 2,428 feet, and is now in a gray sand and shale at 3,200 feet without having had any further shows except salt water after it had stood for two weeks while new derrick and rig were being built after the fire went out when the hole bridged. Production in the Monroe Field, about as far north of this well as the well itself is north of Richland production, is found approximately 400 feet higher than the total depth of the Ches Wymond well. The Gulf company was recently reported dickering with the Ches Wymond Lumber Co. for 5,000 acres of leases in addition to what it already has leased of the company's lands.

Cartersville Wells

The well was the highlight of several happenings that made the week one of the most productive of interesting developments in some time, in both proven and wildcat areas. Next to it was the performance of Palmer Corp.'s No. 1 Roberson, in Section 26-23-12, Cartersville district of Bossier Parish, when put on the bean March 22. Pumping and flowing, this well is making 300 bbls. of fluid, 50 per cent oil and with what it made while flowing by heads a month ago when it first came in, has put 4,000 bbls. of oil in pits with two 500-bbl. tanks up ready to receive production. Bailed February 17 it came in a 6,000-bbl. gusher and flowed for five hours at that rate when it bridged. Total depth is 3,073 feet with the bottom in 8 feet of sand. The next day it was cleaned out and came in again with 2,000 bbls. of oil but bridged again after flowing 12 hours, repeating this performance for a week, gradually declining in production until at the time it made its last show it flowed only 600 to 700 bbls. of fluid 75 per cent water.

In the same district but 2 miles east, Sales & Walker's No. 3 Bolinger, in Section 30-23-11, after being worked over, has been put back on the beam pumping and flowing 500 bbls. of fluid, of which 100 bbls. is oil. It was completed last November 24, making the same amount of fluid but only 50 bbls. of it oil from a total depth of 3,091 feet. Since then it has accumulated 4,500 bbls. of oil in pits.

This well, with two gas wells and one drilling, and 400 acres of surrounding leases was transferred during the week to the Delaware-Louisiana Development Co. for a reported price of $80,000 and an interest in the new company, organized under Delaware charter by Wilmington interests. On the strength of these two producers Palmer Corp. is figuring on building 7 miles of 2-inch line to Clifton spur and loading out the oil to Louisiana Oil Refining Corp. in tank cars to Bossier City, it being the Cartersville district's first oil line, though Dixie-Gulf and Magnolia Petroleum Co. both have a 10-inch gas line tapping it.

Champagnolle Derricks

Recent developments in Champagnolle apparently have not served to dampen permanently the faith of some operators in that territory as, among the several new locations, rigs and drilling wells reported from all over the Shreveport division, two are in this more or less doubtful Union County, Arkansas, pool. O. W. Estes has derrick up for No. 1 Rowland, in the NW cor. SW NW, Section 14-17-14, and Magna Production Co. has derrick up for No. 2 Rowland, in the SW cor. NW NW, same section.

Simrall and others' No. 1 Finley, Section 12-17-14, which showed for 10,000,000 feet of gas and a spray of oil on drill stem test two weeks ago of 4 feet of sand at 3,168-72 feet, believed to be an entirely new sand in that area, drilled in and tested 2,000,000 feet of gas. In Section 10-17-14, Pure Oil Co.'s No. 1 Gregory was dry on drill stem test of 5 feet of sand at 2,108-13 feet, evidently the same stuff as in the Simrall test.

Including the Palmer and Sales and Walker wells in Bossier and the Gulf and Noe and Meredith's No. 1 Boughton wells in Richland (the latter reported in last week's review) there were 16 completions in proven areas of the Shreveport division, the majority, as usual, being gassers. Two were producers with 250 bbls. initial, 8 were gassers with approximately 112,000,000 feet initial open flow and 6 were failures.

Completions During Week

In addition to the wells named the completions were: D. C. Richardson Estate No. 6 Youree-Randolph, Section 13-20-15, Pine Island district of Caddo Parish, dry and abandoned at 2,305 feet; F. M. Fuller abandoned location for No. 1 Boise, in the NW cor. Section 33-16-6, Richland Parish; Moody & Seagraves' No. 1-A Sartor, Section 8-16-6, Richland Parish, was completed at around 2,450 feet, making 51,192,000 feet of gas.

The Monroe district had one completion, a 3,000,000-foot well in Industrial Gas Co.'s No. 2 Hill, Section 9-20-3, Union Parish, total depth 2,162 feet. Arkansas Natural Gas Co.'s second completion of No. 1 North Central Texas, in Section 36-23-10, Spring Hill district of Webster Parish, was salt water and abandoned at 3,125 feet. On first completion February 3 it made 1,500,000 feet of gas a 2,720 feet.

There was one completion in Arkansas, Oilwell Corp. abandoning No. 1 Townsend, Section 10-17-14, Champagnolle, total depth 3,047 feet, where it had been standing as temporarily abandoned after testing dry at 2,829 feet and coring salt water sand a few feet below about the middle of February.

East Texas.

Five of East Texas' six completions were in Panola County and two of these five were failures. In the Waskom district of Harrison County, Fuller & Fuller got 1,000,000 feet of gas at 994 feet in No. 4 Furrh, James Short Survey. The Panola County wells were: Magnolia Petroleum Co.'s No. 1 E. C. Tillery, Jane Thorp Survey, 1,202,000 feet of gas at 2,369 feet after deepening 13 feet where it tested 846,000 feet. Natural Gas Products Co.'s No. 3 T. C. Adams, Evans Brackins Survey, made 2,000,000 feet of gas in the shallow pay at 998 feet. The Texas Company's Nos. 8-B and 9-B T. C. Adams, in the Isom Hatcher Survey, both were dry, the former at 1,010 feet and the latter at 1,069 feet. D. Thomason completed No. 4 Crenshaw, in the John Womack Survey, with 4,000,000 feet of gas, total depth 984 feet.

Production Declines

Production figures for the week, daily average runs from the field show a much larger decline than they revealed last week. The total daily average run of 129,305 bbls. was a decline from last week's average of 1,355 bbls. while last week's run of 130,660 bbls. was only 555 bbls. under the figures for the week before. The decline was about equally divided between North Louisiana and Arkansas pools, though the former were off the most, the difference in Louisiana runs being 780 bbls. and Arkansas 575 bbls. Louisiana runs totaled 43,985 bbls and Arkansas 85,320 bbls.

Runs from the several pools were:

Louisiana

District—	Bbls.
Caddo, light	10,710
Caddo, heavy	3,895
Homer	4,410
Haynesville	6,265
DeSoto-Red River	4,095
Elm Grove	550
Bellevue	1,070
Cotton Valley	4,500
Urania	7,820
Pleasant Hill	670
Total	43,985
Arkansas	
El Dorado	5,460
Smackover, light	8,310
Smackover, heavy	65,450
Stephens	1,100
Nevada County	1,610
Lisbon	2,365
Champagnolle	910
Bradley	125
Total	85,330
Both States	129,305
Total last week	130,660
Decrease	1,855

NORTH LOUISIANA
Bossier Parish

Cartersville—Arkansas Natural Gas Co. began drilling its semiwildcat in Section 6-22-11, No. 1 Crawford, March 17 and has 12½-inch surface casing set at 300 feet. Location is a few hundred feet southeast of production in Section 36-23-12. Atlantic Oil Producing Co. tested salt water at 3,088 feet in No. 1 Bain, Section 31-23-11, just north of the Arkansas Natural well, and is plugging back to make another test at around 3,077 feet, where they got 1,500,000 feet of gas a week ago but decided to go deeper. Delaware-Louisiana Development Co. has rig up for No. 4 Bollinger, in Section 38-23-11, having taken over the Sales & Walker properties. Louisiana Oil Refining Corp. is still fishing for swab lost in No. 1 Blanton, Section 23-23-12, at 3,085 feet. Louisiana Petroleum Co. began drilling March 14, set 12½-inch surface casing at 306 feet and cemented 8¼-inch pipe at 1,040 feet in No. 1 J.

(Continued on Page 157)

DEEPEST TEST IN SHREVEPORT AREA NOW LISTED AS A JUNKED HOLE

By D. H. Bancroft

SHREVEPORT, La., Mar. 26.—Dixie Oil Co.'s No. 1 Jenkins, Section 9-12-11, DeSoto Parish, was added to the list of deep failures this week when it was listed as a junked hole at 6,149 feet, the deepest level to which any test in the Shreveport division has ever been drilled so far as footage is concerned, though Humble Oil & Refining Co.'s No. 30 Bliss & Wetherbee, Section 15-19-11, Bellevue district of Bossier Parish, abandoned at 5,302 feet as a dry hole two weeks ago was, geologically, about 1,200 to 1,600 feet deeper. March 8 the Dixie well struck a pocket of gas which lifted the tools and tangled them up in the drilling line and two weeks' fishing job failed to get them out.

A wildcat in Union Parish, however, had more favorable results though in the history of the area in which it is located there was nothing encouraging hopes of a new pool of commercial importance. The well in question, Carter & Goodwin's No. 1 Security Trust in Section 7-23-1e, was put on the beam for 15 bbls. of fluid, 50 per cent salt water from 7 feet of sand at 2,247-54 feet. Several years ago in the spring of 1924, Palmer & Davidson, Gulf Refining Co., Lide and others and two or three other operators drilled a dozen or so wells most of which pumped a small amount of oil with correspondingly large proportions of water in their total production from the same horizon in which Carter & Goodwin got their well. All these tests were in the NW of Township 23, Range 1e, and across the line and a little south in Township 23, Range 1w. They created considerable excitement for a while but a series of salt water holes and their own behavior finally condemned this vicinity and there has been little if any activity there since.

Wildcat Failures

The remaining three of the five wildcat completions during the week were all failures. Simmons and Harrell's two tests on the Mattie Myer plantation just south of the southern city limits of Shreveport both failed to find the shallow gas they were after before attempting a test to 2,600 feet or below and it has not been learned whether they will now attempt this deeper test. No. 1 in Section 21-17-13, got salt water at 941 feet and No. 2, 400 feet northwest, got it at 925 feet. Along in 1914 territory just west and south of these wells was rather extensively drilled, getting gas at two levels, but about the time the Cedar Grove Field, as it was called, got going good the Caddo oil field disturbance came along, wells were junked and the field eventually flooded out of existence.

H. M. Roark and associates of El Dorado, Ark., who have been trying to develop production on the Winnfield Dome in Section 19-11-3w, Winn Parish, have abandoned their third test on the Southern Minerals Co. lease, which covers the dome heretofore developed only for its limestone, which outcrops over a considerable area. Total depth of No. 3 is 1,332 feet which the bottom several feet in salt rock. Rock salt was found also at 490 feet to 525 feet under which was 8 feet of rotten lime and sandy shale which made a slight show of oil and gas leading to further drilling. Six and five-eighths-inch casing was cemented at 935 feet with the bottom in a sand but it was not bailed after drilling plug. There-

(Continued on Page 157)

Six Worthington 4-in., Three-stage, Oil-line Centrifugal Pumps pumping crude oil from the Seminole Field.

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Shut-downs were so infrequent and short in duration that the spares were seldom used and the operators found it practical to remove one unit for other service without risking a loss in line capacity. The station records show only about one hour enforced shut-down due to pump trouble in eight months' operation.

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WORTHINGTON

South Liberty Extensions Irregular

Offset in South Flows 1,200 Bbls. Well in North Goes Dead for Second Time; Little Gas Pressure

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Mar. 26.—New interest was placed on the South Liberty

field, Liberty County, Texas, when Sunday The Texas Company's No. 8 Staiti came in flowing 1,200 bbls. of pipe line oil daily. This well offsets to the south, Yount Lee Oil Co.'s No. 1 Mitchell, which the latter part of January extended the South Liberty Field 500 feet north. The new well is by far the largest of the four so far completed in this extension district, this not including the other recently opened extension district a mile farther north.

Yount Lee Oil Co.'s first well extending the field was completed pumping only 200 bbls. and this company's No. 2 Mitchell, 200 feet north, was completed March 14 pumping only 50 bbls.

Sun Oil Co.'s No. 1 Mitchell, offsetting to the west Yount Lee's No. 1 Mitchell, was brought in March 3 flowing 600 bbls.

Production in The Texas Company's No. 8 Staiti is from a sand at a total depth of 3,459 feet and the oil tests 22.5 gravity.

Additional irregularities came to light the past week in the mile north extension district of the South Liberty Field, which for a time was looked upon as one of the major discoveries of the Gulf Coastal territory this year. Developments since the extension well, The Texas Company's No. 1 Green, came in during February have kept operators guessing as to the possible extent of the new district.

The discovery well, for the second time, went dead during the week and Saturday was being worked on to revive production. The trouble in this well is that there is so little gas pressure. In the 24 hours before it stopped flowing, Thursday morning, it made 900 bbls. net oil. The well originally was brought in flowing better than 2,000 bbls. daily from sand at 2,280 feet and held up steadily around 1,850 bbls. for about 10 days, when it stopped suddenly. Worked on and with tubing run, it came back in for 1,350 bbls.

Other tests drilled so far have failed to find this production, although all are within a 100-foot radius of the discovery well. Abercrombie & Harrison's No. 1 Lacour, 50 feet south of The Texas Company's lease, however, has been drilled to a depth of 2,780 feet, where it has a sand showing oil and gas. The 6⅝-inch casing has been set there and a test will be made.

Failed to Find Sand

Friday, The Texas Company's No. 3 Green, which is just 50 feet south of the No. 1, also failed to find the sand encountered in the discovery well and Saturday was drilling below 2,310 feet. It probably will be drilled on down to the sand found by Abercrombie & Harrison's test.

The Sun Oil Co.'s No. 1 Abshier, which a week ago found an oil sand high at 1,954-55 feet and cemented casing at 1,936 feet for a test, drilled plug the middle of the week and after going through from 12 to 15 feet of sand and 3 to 4 feet of sandy shale failed to get anything other than a showing of gas and oil. After being shut down for several days it was gone into again Saturday and started flowing a little 29 gravity oil by heads but this morning it had stopped flowing entirely and probably will be deepened.

Sun Oil Co. is going ahead with its No. 2 Abshier, for which it is rigging up. Abercrombie & Harrison also are rigging up for their No. 2 Lacour, as is The Texas Company for its No. 1 Pickett, the latter being 50 feet west, offsetting the No. 2 Lacour. The Texas Company's No. 2 Green, offsetting the Abercrombie & Harrison No. 1 Lacour to the north, also is drilling ahead and is down around 1,900 feet.

In the extension district, 500 feet north of the South Liberty Field, another small well was completed during the week in Yount Lee Oil Co.'s No. 2 Mitchell, which is on the pump for 50 bbls. of pipe line oil. This test was drilled to 4,825 feet, but because of heaving shale was plugged back to 3,442 feet.

Pure Oil Co.'s first test, No. 1 Lost River, at Lost Lake, northern Chambers County, failed to make a commercial producer when bailed the past week. This test is to be deepened slightly. It, however, found oil in the sand which it tested at a total depth of 3,604 feet. The oil, which is standing about 90 feet in the hole, fills up about as fast as it can be bailed from the hole, but with 8¼-inch casing the oil apparently cannot rise any higher. The casing is set at 3,590 feet. The oil tests 27 gravity at 80 degrees.

Allen Dome Tests

Roxana Petroleum Corp. also is starting to deepen a wildcat test, which it has been working on in an effort to make a producer. This is No. 4 Allen, on the Allen Dome prospect, in Brazoria County. The test has been swabbing a little oil daily from sand at 4,913 feet, but it will not flow. This company has another test on this dome at the same depth, this being No. 1 Random, which Saturday was coring at 4,914 feet.

The past week apparently was one of disappointments for all wildcat tests, as C. O. Noble and associates' No. 1 Ellender, on the Old Hackberry Dome, in Calcasieu Parish, failed to make a commercial producer when bailed at 4,351 feet. It also is to be deepened, the back pressure valve being drilled out Saturday.

This well also has been flowing a little oil by heads and has flowed a total of around 200 bbls. with the hole standing 3,000 feet in fluid, of which about 2,000 feet is oil. The oil tests 32 gravity, which is above the average for Gulf Coast. Yount Lee Oil Co.'s No. 7 School Land, also on this dome, is drilling deeper around 5,600 feet.

Sorrento Dome

At Sorrento Dome, Gulf Refining Co.'s new field in Ascension Parish, Louisiana, the discovery well, No. 4 United Land Co., which has been flowing steadily since the middle of February, has been closed in, making another pool in which there was no production reported during the week.

With Sweet Lake aand Sorrento on the nonproducing list and with a sharp drop at Nash Dome, Fort Bend County, Texas, where two of Rycade Oil Corp.'s newest wells dropped off sharply in their flow, together with slight declines in a number of other fields, Gulf Coast would have reflected a substantial decrease in production during the week had it not been for the increase at Bayou Boullion, Rycade's new field in Louisiana. As it was, there was a decline of only 1,838 bbls. in the daily average, the total daily average being 123,020 bbls. Daily average production by fields was:

Daily Average Production

Field—	Bbls.
Spindletop	38,085
Saratoga	1,098
Batson	1,406
Goose Creek	7,210
Sour Lake	3,492
Hull	11,495
Big Creek	1,819
Columbia	7,934
Humble	3,986
Pierce Junction	9,569
Blue Ridge	6,542
Markham	200
Orange	4,104
Damon Mound	835
Dayton	201
South Liberty	3,207
High Island	246
Moore's Field	40
Boling	2,480
Nash Dome	1,300
Barbers Hill	880
Vinton	4,846
Starks	180
Edgerly	1,428
Evangeline	944
Lockport	3,858
Sweet Lake	....
Sulphur	1,260
Hackberry	1,275
Sorrento	....
Bayou Boullion	3,000
Miscellaneous	100
Total this week	123,020
Total last week	124,858
Decrease	1,838

Daily average production in Southwest Texas and East Central Texas Fields showed decreases amounting to 359 bbls., as follows:

Southwest Texas

Field—	Bbls.
Somerset	2,791
Lytton Springs	1,475
Dale	1,134
Luling	13,890
Miscellaneous	7,700
Total this week	26,990
Total last week	27,019
Decrease	26

East Central Texas

Field—	Bbls.
Mexia	7,521
Cedar Creek	625
Nigger Creek	777
Currie	500
Wortham	1,963
Richland	542
Powell	11,968
Total this week	23,896
Total last week	24,219
Decrease	323

Test at DeWalt

On the docket for drilling in the early part of the week is Humble Oil & Refining Co.'s No. 1 Sugarland at DeWalt, Fort Bend County, west of Houston. This is the first test drilled on this dome, which was discovered through geophysical operations during the early part of 1927.

Humble has a sand showing oil encountered at a total depth of 3,336 feet. The casing plug was to have been drilled

(Continued on Page 162)

NEW PENN MEX FUEL COMPLETION, NO. 30 ALAMO, MAKES 4,000 BBLS.

By George Blardone
Staff Correspondent, Mexican Fields

TAMPICO, Mexico, Mar. 23.—Penn Mex Fuel Co., in its old Alamo fields,

scored the one well of worth in Mexican fields during the past week. This was No. 30 Alamo, its old pool, just south and bordering the Tuxpam River. The well is credited with coming in at the approximate depth of 2,200 feet, with a production of 4,000 bbls. Another completion is Page and others' No. 1, Lot 50, San Sebastian, which is drilled 2,813 feet, and is showing for a well, although it has not been tested yet. This well, if it proves a commercial producer, will prove to be an interesting wildcat producer, drilled as it is some 20 kilometers east of the so-called "Golden Lane" of Chinampa-Amatlan, which made much history in 1917-22.

Mexican Sinclair Petroleum Corp. had a small producer in its No. 230, Lot 2 Cacalilao, in the northern fields. It is rated 150 bbls. at 1,885 feet. La Corona Petroleum Co.'s No. 148 Panuco drilled into salt water at 1,700 feet, as did its No. 28 Topila at 3,075 feet.

Imports from Venezuela

The official figures on production of petroleum in Mexico for 1927, 64,131,373 bbls., show a decrease from the production in 1926, of say, 25,981,464 bbls. These figures, Mexico's petroleum history considered, speak for themselves. Comment is hardly necessary, although the reason for this decline will be reviewed in due time.

With this total production in Mexico, consider an importation of crude oil from Venezuela, by Huasteca Petroleum Co., (Standard of Indiana) of 4,662,546 bbls. This light oil (say an average of 21 degrees Baume) was mixed with Huasteca's heavy north fields production, say 12 degrees Baume, and run through its refinery here, the "cracking" process yielding a fair return of gasoline. Adding to this importation of crude oil from Venezuela consider that there was withdrawn from storage during the year, say, 665,830 bbls. Wherefore, a total of, say, 69,459,749 bbls. for distribution.

The distribution can be figured as follows: Visible exports during the year totaled 54,262,741 bbls.; domestic consumption accounted for the remainder, or, say, 15,197,008 bbls.

Export Movement

The movement to foreign ports by tank steamers reflect the following: To the United States, including insular possessions, 34,081,628 bbls.; to Cuba and other West Indian islands, 8,190,533 bbls.; (Note: Of this volume about half was dispatched to Nassau "for orders" where, undoubtedly, it was recleared for either the Continent or the United Kingdom.) Mexican coastwise movement was 2,819,305 bbls., some of which, cleared for Puerto, Mexico, consigned to Mexican Eagle Oil Co.'s refinery there, was eventually sent export, but the precise figures of this movement are not at hand. The rest of the export movement was as follows: To the United Kingdom, 2,830,615 bbls.; to South America, 1,567,720 bbls.; to the Continent, 928,170 bbls.; to Central America, 172,357 bbls.; to Australia, (asphalt only), 133,553 bbls.; to Canada, 214,339 bbls.; to Malasian ports, (asphalt only), 71,084 bbls.; to Panama, 47,890 bbls.; to South Africa, (asphalt only), 26,062 bbls.; to bunkers, (to balance), 3,178,885 bbls.

The classes of oils in the above shipments can be reckoned as follows: Crudes, 26,107,324 bbls.; topped crudes, 17,874,011 bbls.; refined oils, 5,372,372 bbls.; asphalt, 1,730,149 bbls.; and the item of bunkers ,i.e., 3,178,885 bbls. to balance the total, or say, 54,262,741 bbls.

There was in steel storage at the end of December of the year past a total of 14,279,007 bbls., divided as follows: Light crude, 2,920,975 bbls.; heavy crude, 5,155,023 bbls.; fuel oil, 4,618,899 bbls., and other refined, 1,584,110 bbls.

Exploration

The few wildcat wells drilled in 1927 resulted in nothing. In the northern part of the State of Tamaulipas the National Lines of Railways drilled its No. 201 Camargo for a dry hole at 3,065 feet; its No. 144 suffered a like fate at 2,548 feet. In the State of Coahuila two tests are drilling as this is written both of

(Continued on Page 126)

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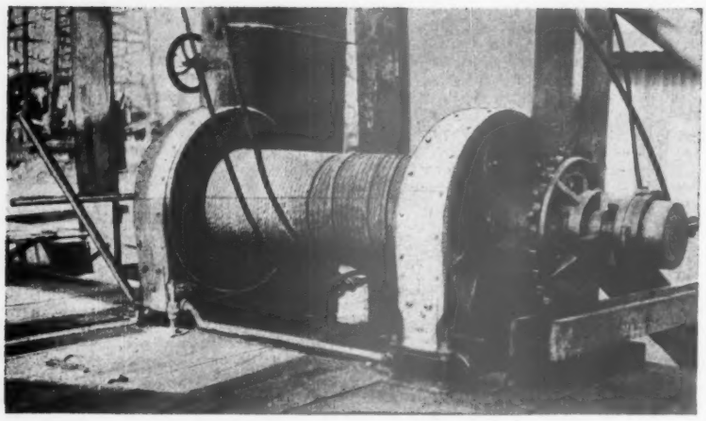
Oil Field Equipment



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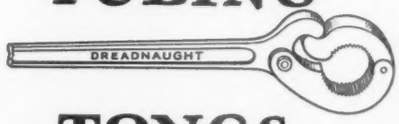

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Teapot Drainage Reported Proved

Government Contention That It Was Separate Structure Declared Upset by Tests. New Sundance Test in Salt Creek Field

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Mar. 24.—Rumors that wells in the southern end of the Salt Creek Field in Wyoming adjacent to the Teapot Dome Naval Reserve were showing increased production and pressure following the shutting in of the Teapot wells, and that analine dyes put into the Teapot wells were showing up in the Salt Creek wells, enlivened the discussion of that affair the past week. Oil men generally have been agreed that Salt Creek and Teapot were one structure and that drainage from one to the other was taking place, but the Government in its efforts to have the Mammoth Oil Co. lease cancelled, introduced numerous witnesses to prove that they were separate structures. Now that the Government apparently admits the facts, the oil men are modestly refraining from saying "We told you so."

The Midwest Refining Co. interests are starting a deep test to the Sundance sand in Salt Creek, the fourth well drilled with that horizon as the objective, and the California Co., subsidiary of the Standard Oil Co. of California, is starting a deep test in Uinta County, Wyoming, on the Muddy Creek Dome. The Wyoming Associated has a 123-bbl. well in the first Wall Creek in Salt Creek, and the Empire State Oil Co. has a 100-bbl. well in the same field. The Cody Petroleum Co. has completed, but has not tested its No. 1 Klindt on the Oregon Basin structure in Park County. The Reece Oil Co. has a 20-bbl. well in the LaBarge Field.

In New Mexico, the Midwest Refining Co. had a good show of gas at 2,675-2,700 feet in its Hobbs test near Nadine, in Lea County, New Mexico. First sale of leases on State land in southeastern New Mexico netted the State $425 bonus above rental requirements. The oil men are to co-operate with the United States Geological Survey in establishing elevation bench marks in that area. Marland Oil Co. has made another location in Lea County, making four wells it will drill in that county. The Inglefield & Bridges' test in Lea County, heretofore reported abandoned, has been cleaned out and looks as if it may be a good producer. The A. Johnson, trustee, well in the Kutz Canon district in San Juan County, has been completed as a gasser.

Utah has another failure in the Utah Southern Oil Co.'s test on the East anticline in San Juan County, which hit the granite at 1,767 feet, and will be abandoned. More water has been encountered in the Midwest Exploration Co.'s test on the Ashley Creek structure in Uinta County. Crystal Carbon Co. is starting six wells for gas on the Cisco fold.

In Colorado, the Continental Oil Co.'s freak well on the North McCallum Dome in Jackson County, has cleared itself of tools, and drilling to test the lower horizons will continue. Several wells in Colorado which have been idle for some time were reported abandoned.

Wyoming

Teapot Dome supplied some real interest the past week. This grew out of the publication by the Inland Oil Index of rumors that since the Government had commenced sealing off the producing sands in the Teapot wells, that wells on the southern end of the Salt Creek Dome had commenced showing increased production and pressure. This, of course, revived the old discussion as to whether Salt Creek and Teapot were separate structures, or a single structure connected by a narrow fold like the neck of a bottle, and whether Teapot was being drained by the wells to the north. There were rumors that analine dyes had been put into some Teapot wells before they were sealed and that these had shown in the the oil produced in wells on the southern end of the Salt Creek Dome, definitely proving that one structure was draining the other.

It is difficult to find anybody who is willing to be quoted on the facts. One reason is that Teapot Dome is a forbidden subject of discussion among Government officials and representative out here, and another is that it is a subject about which the oil men directly concerned do not care to commit themselves. Therefore, the reports have to be confined to rumors. This much, however, can be relied on. The oil men, almost without exception, consider the two structures as one. Teapot is lower than Salt Creek, and if they are connected, it is to be expected that the oil and gas from the lower would drain into the higher parts of the structure. When a big gas well blew in on Teapot several years ago, producing wells near the neck connecting the two areas showed a sudden and pronounced decline. The shutting in of the Teapot wells is reliably reported to have resulted in increased pressure and production in the wells immediately to the north. If analine dyes were used as reported, their effect would be only to confirm what the oil men generally have accepted already as a fact.

An interesting phase of the discussion is that the Mammoth Oil Co.'s lease was defended on the ground that Salt Creek was draining Teapot Dome. The Government, in its efforts to have the lease cancelled, attempted to show by witnesses that the two were separate structures. When the Navy Department some few weeks ago attempted to bring about an adjustment of royalty agreements with companies owning wells bordering on Teapot so it could get "compensating" royalties for increased production due to the shutting in of Teapot wells, it virtually admitted that the structures were being drained, and efforts to procure legislation at Washington to prevent the Government from losing oil from its reserve is considered a confirmation of the facts.

Now that the Mammoth's lease has been cancelled, and the Teapot wells have ceased producing, oil men are more free in expressing the opinion that the lease was a good one for the Government from an operating standpoint, and that it would be difficult, if not impossible, to again lease the structure. It is not believed that any large company would care to take it over on any basis other than some kind of a working agreement.

Another rumor in connection with Teapot Dome mentioned by the Index that has been heard in Casper recently is that the Government has under consideration the advisability of turning over the dome to the Bureau of Mines an an experimental station for the study of the air-lift method of producing oil.

New Tests Announced

Drilling operations for the week resulted in no important completions in Wyoming. The best well was the Wyoming Associated Oil Co.'s No. 36-2, NE Section 34-40-79, in Salt Creek, which had an initial production of 123 bbls. from the first Wall Creek sand. This well originally was intended to go to the Lakota, but stopped in the first Wall Creek, and recently was drilled a little deeper and completed. The Reece Oil Co.'s No. 2, NW Section 27-27-113, in the La Barge Field, has been completed and on the pump is making 20 bbls. a day, part of which is water. The Utah Oil Refining Co.'s No. 2 State, NW SW NE Section 36-43-91, on the Black Mountain Structure on the Hot Springs-Washakie Counties line, is listed as a completion at 3,240 feet. It was shot with 100 quarts, after which it was shut in with 2,500 feet of fluid in the hole. The Empire State Oil Co.'s No. 29-A, Section 12-40-79, Salt Creek, was completed at 2,602 feet, and after a shot produced 100 bbls. initial.

Several new tests were announced the past week. The California Co., subsidiary of the Standard Oil Co. of California, has made a location in the NW cor. NE NW Section 7-17-116, on the Muddy Creek Dome, on the Meridian anticline, in Uinto County, about 6 miles north of Bridges, on the Union Pacific Railroad. A gasoline engine will be used on account of the scarcity of fuel, and the test will start in a 22-inch hole, which indicates that it is going to be deep test.

This will be the company's second operation in that region, its No. 1, on SW SE, Section 11-29-115, on the South Piney, or Snyder Basin structure, being shut down for the winter at 1,500 feet. The Midwest Refining Co. is starting another deep test in Salt Creek for one of its affiliated companies in its No. 16-SD in the SE NW NW, Section 35-40-79. This well will go to the Sundance sand. Only three wells have been drilled to that horizon in Salt Creek. The discovery in that horizon was completed October 15, 1925, on Salt Creek Producers lease in the SW SE, Section 23-40-79. It was a small producer, making only 31 bbls. initially from 69 feet of sand. The next test was drilled 2 miles to the south of Mountain Producers lease in the SW SE, Section 35-40-79, and made 1,034 bbls. initially from sand at 2,828-70 feet. The third test was on Salt Creek Producers lease in NE SW, Section 35-40-79, and made 6,380 bbls. initially from sand at 2,896-2,965 feet. The first two wells produced from the second bench of the sand, and the last one from the third bench. It is apparent that more testing would have to be done before the extent of the sand can be determined. This discovery well in that horizon was approximately on the edge of the structure on the north.

Oregon Basin

In the Oregon Basin district in Park County, the Cody Petroleum Co.'s No. 1 Klindt, NE SE NE, Section 7-51-100, has completed its drilling, but has not yet been equipped for producing. It was drilled to 3,786 feet and then plugged back to 3,770 feet. It is estimated that it will make around 700 bbls., but this may be a little high when put on the beam. Same company's No. 2 Klindt, SE NE NE, Section 7-51-100, is drilling at 2,825 feet. Good news was received this week from Charles E. Orchard's No. 1 Rue, SW cor., Section 28-51-100, on the south dome, which was nearing the sand a month ago when 2,600 feet of 6⅝-inch casing dropped 900 feet. The casing now is all out of the hole and the string of 6⅝-inch has been rerun and cemented at 3,506 feet. It is approximately 1½ miles northeast of the Ohio Oil Co.'s No. 1 Baston, on Section 6-50-100, the first well on the south dome to reach the Embar, and is just a little lower on the structure. It probably will be the next completion.

The Ohio Oil Co.'s No. 1 Baston, NE cor., Section 6-50-100, which topped the Embar at 3,427 feet, is drilling in that formation at 3,521 feet with the hole full of oil. It still has 150 to 200 feet to go to reach the top of the Embar. The Ohio's No. 3 Sonners, Account 1, NW NW, Section 8-51-100, which topped the Embar at 3,351 feet, where the casing was set, is drilling out the cement. Same company's No. 2 Wilson, NW cor., Section 4-50-100, is drilling at 2,020 feet. The Continental Oil Co.'s No. 1-A State, NW cor., Section 16-51-100, is drilling at 2,000 feet. The 3-Holding Association's No. 1 Downing, Section 35-51-100, has spudded in and is drilling at 400 feet. Ross & Richards are spudding in on their No. 1, Section 28-52-101, and the Ohio Oil Co. is deepening its No. 2 Pauline, Section 5-51-100, an old gas well drilled by the Enalpac Oil & Gas Co., which is now controlled by the Ohio. The Linco Petroleum Co.'s No. 1 Pulley, SE cor., Lot 7, Section 13-51-101, is drilling with rotary at 1,100 feet. Same company's No. 1 Rousseau, NE NW, Section 33-51-100, is drilling at 2,756 feet, and its No. 2 Frisby, Lot 2, Section 36-51-101, has material on location. Same company's No. 1, SE cor. SE, Section 24-51-101, is rigging up rotary tools at 1,015 feet. Ferdig-Wyoming Oil Co.'s No. 1 Hough, SE cor., Section 19-51-100, which topped the Embar at 3,686 feet with a show of oil, is making a water test at 3,690 feet. Baston & Darrow's No. 1 Welch, Section 10-50-100, is shut down at 565 feet. Ostland Development Co.'s No. 1 Shaw, NE cor. NW, Section 18-51-100, is shut down at 505 feet. Wisconsin Holding Co.'s No. 1 Rausch, NW cor., Section 9-51-100, is standing with 8¼-inch cemented at 2,078 feet.

Operations other than Oregon Basin, in Park County, include Union Oil Co. of California's No. 1 Taylor, Section 22-47-100, North Sunshine structure, cleaning out at 3,712 feet. Honolulu Oil Co.'s No. 1, Section 29-48-103, Fourbear structure, is drilling at 2,870 feet. Ohio Oil Co.'s No. 1 Pulley, Section 27-53-101, Sunshine structure, is drilling at 2,868 feet.

LaBarge District

In the LaBarge district, the Wooten Oil Co.'s No. 1, Section 26-27-113, is drilling at 1,350 feet, and the Seabeck Oil Co.'s No. 1, Section 35-27-113, is drilling at 1,200 feet. The Ogden-LaBarge Oil Co.'s No. 1, Lot 2, Section 18-27-113, is reported in a water sand at 2,150 feet. The Texas Production Co.'s No. 1 Davis, Section 15-26-113, is standing recemented at 850 feet.

New Mexico

The first sale of oil and gas leases on State lands under the new regulations recently promulgated by P. F. Pankey, state land commissioner, took place on March 10, following the opening of bids on nine tracts comprising 9,800 acres located in the southeastern part of the State. Leases on four tracts were sold, the highest bids aggregating $425 premium above the minimum rentals ranging from 25 to 50 cents per acre. There were no bids submitted on five of the tracts. Another sale takes place at Santa Fe on March 26, when bids will be received for a second group. Tentative plans have been adopted for the offering of leases on the tenth of each month instead of following the "over-the-counter" method of disposing of leases. Charles B. Barker, attorney for the land office, is quoted as saying that the new system removes any ground for charges of favoritism and is expected to result in a gain in revenue for the State. The active areas coming under the new regulations are in Lea, Eddy and Chaves Counties.

The need for a permanent network of elevation bench marks in southeastern New Mexico growing out of the active development in that area has resulted in the formation of the Levelling Association of New Mexico at a recent meeting

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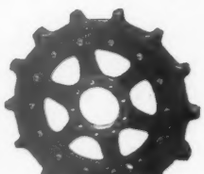

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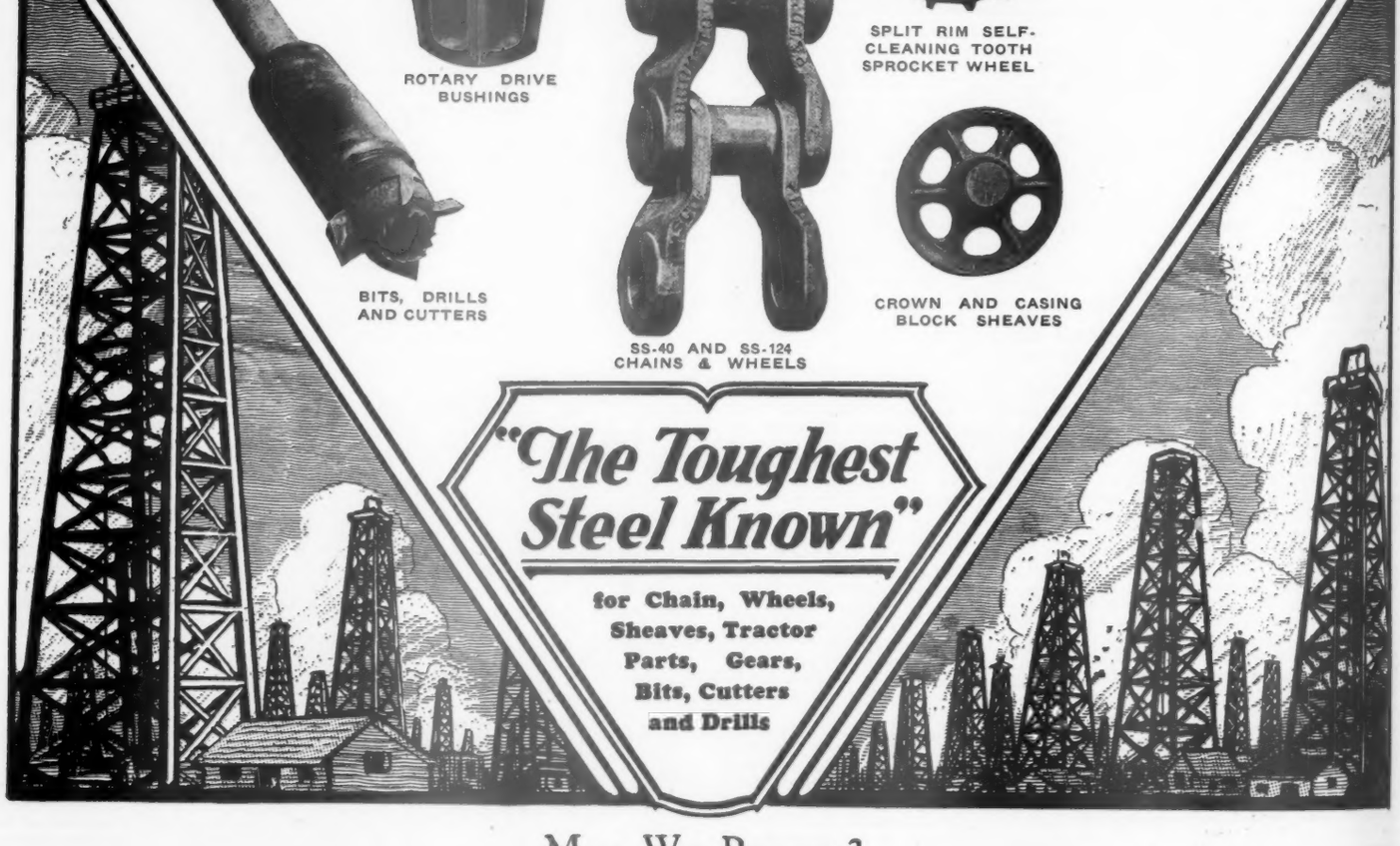

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of representatives of oil companies, the United States Geological Survey and the State of New Mexico at Artesia. The purpose of the association is to co-operate with the other agencies in the matter of establishing bench marks. The work is to be done by the United States Geological Survey and the cost will be bore proportionately by the association and the survey. Any one interested in the work of the association may secure additional information by addressing H. S. Cave, care the Gypsy Oil Co., at Roswell, N. Mex.

Lea County

The most interesting development in Lea County for the week was the encountering of a good show of gas in the Midwest Refining Co.'s No. 1 State, NE cor., Section 9-19-38, at 2,675-2,700 feet. Reports to the company's offices in Denver, Colo., did not disclose the quantity of gas, but it was not sufficient to interfere with drilling and at last reports the tools were working at 2,890 feet in the gray limey shale and anhydrite. This well is 4 miles north of the Cecil Bordages' No. 1 Hughes, in the C S half, Section 27-19-38, which had a show of gas at 3,050 feet, followed by a show of oil at 3,060-70 feet, and approximately 3,000,000 feet of gas at 3,110 feet. The Bordages test is still held up at 3,110 feet with a fishing job, and is flowing about 1,000,000 feet of gas past the bridge caused by the tools lodging when blown up the hole. The indications are that the Midwest's State well is running higher than the Bordages well, though the elevation of the latter is not available. The Midwest well has an elevation of 3,532 feet, and topped the salt at 1,625 feet. The Bordages well topped the salt at 1,680 feet and went out of it at 2,735 feet. These two tests are going to be watched very closely for the next few weeks as they are on a high that was worked out not only by digging pits, but with the aid of the torsion balance and magnetometer.

The Marland Oil Co. has made another location in Lea County in its No. 1 Shales, NE cor. SE, Section 24-25-36, about 6 miles northwest of the Texas Production Co.'s No. 1 Rhoades well. It is in a direct line with two other locations made by the Marland company a few weeks ago, the line running from the Rhoades well northwesterly towards the Maljamar Pool. The slush pit is being dug for the Shales well. The Inglefield & Bridges' No. 1 State, SE cor., Section 4-17-34, which has previously been reported abandoned at a total depth of 5,329 feet, furnished a surprise the past week. It was shot some time ago at 4,685-4,745 feet with 400 quarts and the well was considered to be noncommercial. It appears that efforts were made to clean the well down to the shot and that when that horizon was reached that it made a flow of 140 bbls., and swabbed 120 bbls. for the two succeeding days. Cleaning out operations were reported delayed by the necessity for machinery repairs and the present status of the operation is not stated. While this information has not been verified, it comes from what is believed to be reliable sources. The well ran into salt water at 5,325 feet, but showed for 12 to 15 bbls. a day above the salt. The Gypsy Oil Co.'s No. 1, SW cor., Section 34-21-36, is preparing to rig up, and the Empire Gas & Fuel Co. is moving for its test in the NW cor., Section 8-21-35. Marland Oil Co.'s No. 1 Seideman, SW cor., Section 4-25-36, is rigging up, and its No. 1 Roberts, SW cor., Section 20-23-35, is also rigging up. Same company's No. 1 Eaves, SW NE, Section 19-26-37, is shut down for fuel. At last reports it was drilling in salt at 1,985 feet after running the 10-inch at 1,591 feet.

Eddy County

In Eddy County, the Pueblo Oil Co.'s No. 1 Gessert, NE cor. NW, Section 1-17-31, a little more than a mile to the south and east of the Texas Production Co.'s No. 2 Robinson, in the Maljamar area, is being abandoned at 3,705 feet, where it has been tied up for more than four months with a fishing job. At that horizon it encountered a flow of gas which blew the tools up the hole where they lodged and all efforts to recover them have failed. The rig will be skidded and a new hole started. Levers & Carper's No. 6 State, SW NW, Section 3-18-27, in the Artesia Pool, commenced spudding on March 18 and is drilling at 100 feet. Snowden & McSweeney's No. 1 Lawrence, NW cor. NW, Section 35-20-29, is drilling at 300 feet and R. D. Compton's No. 1 Vandergriff, NE SE, Section 8-18-27, is drilling below 300 feet.

In Chaves County, O. J. Warman has made a location in the SW Section 23-13-24, 12 miles west of Dexter and north of Blackdom. The Barrendon Oil & Gas Co.'s No. 1 Roswell, SW cor., Section 5-10-24, is drilling below 650 feet. The Arena Oil Co.'s No. 1 Wilkins, NE cor. NW, Section 18-13-31, is drilling below 3,465 feet.

In San Juan County, the A. Johnson, trustee, No. 1 Viles, SW Section 34-29-11, has suspended drilling at around 1,960 feet and it will be completed as a gas well with a production of approximately 2,000,000 feet a day. It was shot the past week in an effort to bring in oil, and while there was a showing, it was not commercial.

Utah

Utah reported another failure this week in the Utah Southern Oil Co.'s No. 1 Canyon, Section 27-41-19, on the East anticline in San Juan County. It encountered mica schist at 1,764 feet and granite wash at 1,767 feet. It was still in granite wash at 1,822 feet. It will be abandoned. The test was started two years ago to explore the Pennsylvanian formation. It cut a number of gas horizons at 640 to 1,000 feet, the aggregate flow from these horizons being estimated at 70,000,000 feet. The gas, which was in the upper Pennsylvanian, was noninflammable. When a depth of 1,310 feet was reached, the hole had been so reduced it was doubtful if it could be carried down to test the lower Pennsylvanian. A diamond drill outfit was substituted and operation resumed, but failed to pick up anything of value. The General Petroleum Corp., and the Utah Oil Refining Co. contributed towards the cost of the test. This is in what was known as the old San Juan Field where quite a boom developed many years ago. Some shallow production was developed, but no deep tests were drilled. Owing to the remoteness of the region from the railroad, the low price of oil, and the distance to any market for small producers, the field was abandoned and considerable equipment was left to rust. When conditions changed, this area attracted considerable attention and several tests were drilled on nearby structures, but with no important results. The log of the Canyon well correlated quite closely with the logs of the same company's No. 1 Noble, Section 28-40-18, on the Cedar Mesa structure, which was abandoned in mica schist at 3,620 feet, and the Midwest Exploration Co.'s No. 1 Hughes, Section 30-34-19, Elk Ridge Dome, which was abandoned in mica schist at 4,422 feet.

Grand County

The Crystal Carbon Co. is starting another well on the Cisco Fold, in Grand County, not far from the town of Cisco. This is a gas structure and the company is increasing its supply of gas for a carbon plant it operates in the field. This is the first of a series of six wells to be drilled by the company. Utah Southern Oil Co.'s No. 1 Frank Shafer, Section 6-27-21, Cane Creek Dome, is again pumping after running heavier rods, and is making around 50 bbls. a day which is being stored for fuel supply. Same company's No. 1 J. L. Shafer, Section 36-26-20, Cane Creek Dome, is drilling at 638 feet in gray lime. Phillips Petroleum Co.'s No. 1 Schirk, Section 16-27s-16e, Barrier Creek anticline, Wayne County, is building derrick. Water line has been laid and camp is nearing completion. Western Ventura Corp.'s No. 1 Krumvieda, Section 6-5s-21e, Vernal monocline, in Uinta County, is drilling at 731 feet. This is a Tertiary test. Same company's No. 1, Section 8-5s-21e, Dog Valley structure, Uinta County, is rigging up, and expects to be drilling by April 1.

The Midwest Exploration Co.'s No. 3 Ashley Creek, Section 23-5-22, Uinta County, which had a flow of 29,000,000 feet of gas in a sand in the Morrison formation only to find water in lower horizons, is drilling ahead at 2,352 feet in hard sandy lime. A formation shutoff was made at 2,322 feet after passing out of a sand topped at 2,065 feet. Sulphur water came in at 2,115 feet. After making the shutoff, the tools went back into a reddish-tan colored sand making more water and then into the sandy lime. Whether this is the Nugget sandstone, or some other formation, is not definitely known. It appears, however, that it has gone through what is known in northwestern Colorado as the Sundance, the first objective. The reddish sand was topped at 2,360 feet. If something worth while does not show up soon, it is probable that the hole will be carried on down to the Park City formation of Pennsylvanian age. The shutoff at 2,322 feet was made with the 8¼-inch. Same company's No. 1 Early, Section 13-4s-6w, Duchesne County, was in gray shale at 3,260 feet. The Texas Production Co.'s No. 1 Shipley, Section 5-27-14, Wayne County, is still shut down for orders at 2,885 feet where it has been delayed by a bad fishing job. The Diamond Oil Co.'s No. 3, Section 29-8s-5e, Utah County, is drilling below 810 feet. Continental Oil Co.'s No. 1 Boundary Butte, San Juan County, is drilling at 3,510 feet.

Colorado

A test of horizons below the big gas sand in the Continental Oil Co.'s No. 1 Peterson, Section 1-9n-79, on the North McCallum Dome in Jackson County, now appears to be reasonably certain as a result of the clearing of the hole of the tools the past week. This well commenced making gas at 5,111 feet about three weeks ago and at 5,115 feet blew in in the Muddy, or first sand of the Dakota series. The tools were blown up to within 600 feet of the top where they lodged and bridged the hole. The well was then shut in and some gas with oil commenced making its appearance between casings. The 6¼-inch has been run to the top of the sand. When the well was opened the past week to fish for the tools, the pressure blew them out of the casing and the hole now appears to be in good condition. Officials have made no estimate of the gas flow, but it is believed to be at least 20,000,000 feet, while the pressure is very heavy. The well is only one-fourth of a mile north of the discovery and the gas appears to be of the same noninflammable quality. No attempt will be made to produce the well at this horizon, though undoubtedly it would make oil if allowed to do so. The intentions of the company are to go on down and make a test of the Dakota and possibly the Lakota sands. The Continental controls the entire structure and is anxious to find out just what it has before it works out an extensive development campaign. The discovery well is shut in and the gas pressure is being conserved.

The Florence district in Fremont County was visited the past week by a party of geologists on their way to the California convention. They were taken through the field by citizens of Florence and Canon City. This operation, the second oldest producing field in the country, continues to attract the attention of oil men as a result of recent developments. The field is now producing better than 1,200 bbls. a day, including output of the west and south extensions This is about the highest record in 25 years. The Continental Oil Co., the principal operator, was reported the past week to have taken over a majority stock holdings in the San Isabel Oil Co. and the Marjo Oil & Gas Co. in the south extension. The purchase price was not disclosed, but was reported to be $50,000. The acreage is mostly in Section 22-20-69, upon which are several producing

(Continued on Page 113)

DALHOUSIE WELL MAY BE BIGGEST PRODUCER IN TURNER VALLEY FIELD

By Victor Lauriston

Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Mar. 24.—In the Turner Valley Field, southwest of Calgary, Dalhousie Oil Co.'s No. 1, LSD 4, Section 18-20-2w5, looks as though it might ultimately prove the biggest crude naphtha producer in the field. The well several weeks ago got the producing horizon in the Madison limestone, and started with a big wet gas flow. Almost immediately it froze with the diamond drill tools in the hole. The tools were released last week and the well thawed out and again blew into production. It is reported to be making over 19,000,000 feet of wet gas per day from the Madison limestone horizon at 4,565 feet. Its initial crude naphtha recovery is officially stated to be greater than that of Royalite No. 4, though somewhat less than No. 4's present output of around 625 bbls. a day. It is expected that when Dalhousie No. 1 is under proper control on the separators, it will materially increase its output, and possibly make 700 bbls. a day or better. The production comes from a depth of 4,565 feet, which is 155 feet in the lime. The gas flow is about equal to that of Royalite No. 4 or perhaps a trifle larger; and the well when it gets into settled production should at least duplicate Royalite No. 4 in wet gas flow and crude naphtha recovery.

The drillers had a ticklish job getting out the diamond drill stem and drill. While the well remained frozen, efforts were made to release them by running hot water down the stem. They were quickly extracted after the well thawed, but the work was made difficult by the fact that it had to be done at once in the dark, not even electric lights being allowed within the danger zone. The gas blew open with a roar that could be heard a mile away.

Was Old Flowing Well

Dalhousie No. 1 is the old Southern Alberta Oil Co.'s No. 1 flowing well. This test first started drilling in the early days of the Turner Valley development. It spudded in February, 1914, some months before the Calgary boom actually got under way. The Southern Alberta Oil Co. was a small venture organized and largely financed by William Livingston, J. D. Pugh and a few associates. It was noteworthy as probably the smallest capitalized organization of the boom period, and yet had the distinction of being the first company to pay a dividend. Southern Alberta No. 1 struck light crude in September, 1915, at 3,527 feet, it being for some time a flowing well, with a reputed production of 50 bbls. a day. A refining and marketing subsidiary handled the production. Later the production declined; and when, in 1925, the present Dalhousie Oil Co., a Royalite subsidiary, took over the Southern Alberta enterprises, it was decided to deepen the old Southern Alberta No. 1 as a test of the Madison limestone on the west side of the Turner Valley structure. The Madison proved to be about 800 feet deeper here than on the apex of the eastern fold, where Royalite No. 4 got its big production. Dalhousie No. 1 is the first producer to get big production in the deep lime on the west fold, though Vulcan Oils No. 1 got its production at still greater depth at the bottom of the intervening syncline. Dalhousie Oil Co. is controlled by the Royalite Oil Co., an Imperial Oil, Ltd., subsidiary, which holds 51 per cent of the stock, the remaining 49 per cent

(Continued on Page 109)

Long Beach May Offset Curtailment

Deeper Drilling Slow but May Mean 35,000 Bbls. Higher. Fifty Tests Near Completion; 200 More in Prospect

By L. P. Stockman
Staff Correspondent, California Fields.

LOS ANGELES, Calif., Mar. 24.—The artificial gas curtailment made recently in the Ventura Avenue Field as a conservation measure to eliminate the waste of natural gas which was being blown into the air because of inadequate pipe line facilities was accomplished by shutting in approximately 10,500 bbls per day of light refining crude oil and while this decrease was naturally reflected in State production it is quite possible that Long Beach will more than offset this drop soon as there are a large number of lower zone wells scheduled for early completion. The deep sand exploitation campaign which has been under way in the latter field for nearly six months has boosted field production approximately 30,000 bbls. per day during this period but this really does not represent the total amount of new production brought in since last October due to the fact that probably another 20,000 bbls. has been offset by the killing of former upper zone producers preparatory to deepening them. The number of completions in the deep zone up to date is away below expectations due to exceptionally slow drilling after passing the 5,000-foot level and while normal footage naturally decreases as the bit progresses this is exceptionally marked at Long Beach. These wells must come in eventually, however, and although each day's delay reduces the projected peak due to the fact that the oil sand is being constantly depleted the great thickness of oil-bearing formation in this field may have sufficient kick to push daily production up another 35,000 bbls.

Fifty Nearing Completion

There are about 50 new wells and deepening projects at Long Beach within 500 feet of completion and this group will be followed quite regularly by another 200 which are either already on the way down or scheduled for early spud. The 1928 peak at Long Beach is expected to occur in May or June and while the high point is still about 60 days ahead the number of new wells nearing completion indicates the probability of greatly increased production during April. The peak to be attained as a result of deep sand exploitation at Long Beach may not be as sharp as some expect and I am rather inclined to believe that both the ascent and descent will be relatively gentle. The large number of wells which should be finished after the peak practically precludes any very rapid drop as the enormous amount of sand present guarantees a large ultimate recovery The anticipated increase in production at Long Beach as a result of deep sand exploitation is of particular interest at present in view of the attempt to curtail as much heavy oil production as possible. Stocks of heavy crude and fuel oil have been accumulating for a number of years and with 96,239,379 bbls. in storage at the close of February it is quite obvious something must be done to arrest this evil. A program has been tentatively agreed upon but producers are not entirely in accord with the proposed curtailment plan and this may prevent a general adoption.

California produced 18,038,459 bbls. of crude during February, a daily average of 622,016 bbls. This is an increase of 8,202 bbls. per day over the output during January and while production during March will be lower than both January and February State production during the next several months will be considerably higher as a result of deep drilling at Long Beach, unless the projected curtailment of heavy crude is unusually effective. Long Beach accounted for the greater part of the increased production during February although Kern River, Brea-Olinda and Ventura Avenue were also contributing factors. Santa Fe Springs, Huntington Beach, Torrance, Dominguez, Rosecrans, Inglewood and Seal Beach all showed minor losses over the preceding month. The increase of 5,409 bbls. in the daily production of the Long Beach Field during February resulted primarily from the completion of six new wells which showed a combined initial daily production of 10,344 bbls. Seventeen new wells were brought in at Huntington Beach and 21 at Kern River but the new production added. 3,397 bbls. in the former area and 4,005 bbls. in the latter district, was relatively small. The largest well finished in California during February was No. 16 Orange of the Shell company in the Fullerton, or Brea Olinda field, the well showing an initial flow of 4,623 bbls. during the first 24 hours. Drilling operations during the month were slightly higher than development work during January and since there has been an appreciable increase during the past several weeks, March will probably show an appreciable gain over both January and February

Long Beach

All of the wells put on production at Long Beach during the week registered prolific production and with additional completions anticipated momentarily the daily production of this field is expected to show a very perceptible increase during the next several weeks. No. 4 Schilling of the California Petroleum, a new well finished a few days ago, registered an exceptionally large initial production and No. 7 Davidson, which will be on production within a week, is also expected to show up exceptionally well. No. 4 Schilling, the California Petroleum's latest completion, was brought in under a natural flow doing 3,960 bbls. of clean 29.4 gravity oil and 2,000,000 feet of saturated gas daily from the 6,478-foot level. This well is still building up and will probably do better than its initial production after it has been on production for a few days longer and cleaned itself out, as the rotary mud is undoubtedly retarding the flow. The California Petroleum is the second largest holder of acreage in the Long Beach Field and the 14 wells now under way will undoubtedly result in substantial production upon completion.

The Shell has not listed many completions in the Long Beach Field since the deep-sand play got under way several months ago but the company more than made up for lost time during the past week by completing three new wells and a check of present work indicates the probable completion of a number of additional wells within 15 days. The Shell started off the week by bringing in No. 24 Alamitos doing 2,080 bbls. of 28.6 gravity oil and approximately 1,000,000 feet of wet gas daily from 6,475 feet, the hole having been finished with a 5¾-inch oil string carrying 912 feet of perforated.

It is interesting to note that the Shell plugged back from 6,515 feet because of a gray sand which looked rather suspicious and while the output is still cutting rather high it may clean up. No. 5 Patton Wilson followed No. 24 Alamitos into completion and it registered an initial output of 2,550 bbls of clean 28.2 gravity oil and 1,250,000 feet of wet gas daily from the 6,440-foot level. This well was also plugged back, a 113-foot plug being placed on bottom. No. 3 Binkley

(Continued on Page 110)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well and Location—	S-T-R	Dept	Status
Associated, No. 1 Cypress, Potrero	34- 2-14	5,408	testing
Associated, No. 2 Cypress, Potrero	34- 2-14	3,930	hd. sd. drilling
Smith & Carpenter, No. 1 Smith, Potrero	35- 2-14	5,282	gas well
Pet. Securities, No. 1 Connolly, Potrero	27- 2-14	5,030	abandoned
World Pet. Co., No. 1 Inglewood, Los Angeles Co.	28- 2-14	3,777	suspended
Mont. Park Oil Co., No. 1 Browning, Monterey Park	26- 1-12	4,111	hd. sd. drilling
Associated, No. 1 Patterson, Pico	13- 2-12	5,442	abandoned
Shell, No. 2 Mission, San Fernando	4- 2-15	Rig	rigging up
Andrews, Otis, No. 1 Lancaster, Los Angeles Co.	23- 8-13	1,883	hd. sd. drilling
Woods, D. H., No. 1 Lancaster, Los Angeles Co.	5- 7-10	Mtl.	building rig
Security Pet. Co., No. 1 Lynwood, Los Angeles Co.	12- 3-13	4,293	sd. sh. drilling
Dominguez Ext., No. 1 Comp on, Los Angeles Co.	27- 3-13	5,510	pipe trouble
San Clemente Oil Co., No. 1 Peck, Hawthorne	20- 3-14	5,760	suspended
Shell, No. 1 Dupree, Hawthorne	29- 3-14	5,380	set pipe
Easton & Smith, No. 1 Calabasas, Los Angeles Co.	19- 1-17	Rig	rigging up
Scott & Currier, No. 1 Hawthorne, L. A. County	33- 3-14	140	suspended
White Behr, No. 1 Watson, L. A. County	21- 4-14	4,611	wet
Buttrum, F. W., No. 1 Richfield, Orange Co.	36- 3- 9	4,200	gr. sd. drilling
Ohio Oil Co., No. 1 Anaheim, Orange Co.	9- 4-11	2,548	hd. sd. drilling
Olympic Refg. Co., No. 1 Sunset Beach, Orange Co.	19- 5-11	4,880	gr. sd. drilling
Kneuper, A. D., No. 1 Seal Beach, Orange Co.	10- 5-12	Rig	rigging up
Getty, Geo. F., No. 1 Seal Beach, Orange Co.	14- 5-12	4,186	hd. sd. drilling
Shell, No. 1 Stern, Orange Co.	22- 5-10	4,228	hd. sd. drilling
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	2,440	hd. sd. drilling
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	2,716	hd. sd. drilling
Davenport O. & G. Co., No. 1 San Marcos, San Diego	30-12- 2	365	hd. sd. drilling
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	418	hd. sd. drilling
Mills, J. P., No. 1 Pueblo, San Diego Co.	18-15- 3	2,380	hd. sd. drilling

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Bolsa Chica, No. 1 Kettleman, Kings Co.	30-23-19	3,502	perforating
General Pet., No. 2 Ochsner, Ketleman Hills	28-22-18	6,770	fishing
South Coalinga, Well No. 1, Kettleman Hills	35-24-19	3,110	suspended
Monocline Dev. Co., Well No. 1, Kettleman Hills	7-21-21	4,308	suspended
McPhail, Hugh, Well No. 1, Kettleman Hills	13-24-18	2,100	suspended
Milham Explts., No. 1 Kettleman, Kings Co.	2-22-17	6,941	hd. sd. drilling
Star Petroleum, No. 1 Cabinet, Ventura Co.	13- 3-23	5,760	reaming
Standard, No. 4 Saticoy, Ventura Co.	22- 2-22	1,360	gr. sd. drilling
Standard, No. 5 Saticoy, Ventura Co.	15- 2-22	.....	location
California Western Oil Co., No. 1 Elkins, Ventura	5- 3-19	1,416	hd. sd. drilling
Exline, Emma, No. 1 Saticoy, Ventura Co.	33- 3-21	Rig	rigging up
Petroleum Sec., No. 1 Diablo, Ventura Co.	26- 5-18	4,199	suspended
Parkford, E. A., No. 1 Strathern, Venturo Co.	5- 2-18	4,002	suspended
Shell, No. 1 Strathern, Ventura Co.	6- 2-18	4,361	hd. sd. drilling
American Oil Co., No. 1 Camarillo, Ventura Co.	31- 2-20	171	sd. drilling
Sco t Pet. Co., No. 1 Rincon, Ventura Co.	35- 4-25	3,880	good show
Shell, No. 2 Oxnard, Ventura Co.	35- 2-22	1,001	sd. drilling
Miley Oil Co., No. 1 Red Mountain, Ventura Co.	7- 3-23	980	suspended
Keck Inv. Co., No. 1 Fillmore, Ventura Co.	35- 4-20	4,500	abandoned
McAdams, J. E., No. 1 Buttonwillow, Kern Co.	26-29-23	5,250	sd. sh. drilling
Milham Explts., No. 1-A Buttonwillow, Kern Co.	8-28-23	4,662	gas well
Milham Explts., No. 2 Buttonwillow, Kern Co.	8-28-23	2,730	gas well
Milham Explts., No. 3 Buttonwillow, Kern Co.	8-28-23	2,694	gas well
Milham Explts., No. 4 Buttonwillow, Kern Co.	5-28-23	1,602	sd. drilling
Doheny-Stone, No. 1 Salisbury, Kern Co.	7-29-24	4,150	deepening
Southern Calif. Gas Co., No. 1 Buttonwillow, Kern	4-28-23	2,812	sd. sh. drilling
Richfield Oil Co., No. 1 Semitropic, Kern Co.	21-26-22	1,620	suspended
Pacific Eastern, No. 1 Union Ave., Kern Co.	6-30-28	5,640	plugging back
Pacific Eastern, No. 2 Union Ave., Kern Co.	6-30-28	4,500	set pipe
Jackson & Chamberlain, No. 1 Bakersfield, Kern	19-29-28	392	sd. sh. drilling
O'Donnell, J. E., No. 1 Fruitvale, Kern Co.	31-28-27	.....	loca ion
O'Donnell, J. E., No. 1 Greenfield, Kern Co.	31-30-28	1,943	sd. sh. drilling
Superior Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,418	hd. sd. drilling
Stabler, W. W., No. 1 Comanche Point, Kern Co.	23-32-29	1,824	gr. sd. drilling
Midway Northern, No. 1 Edison, Kern Co.	29-29-30	3,298	hd. sd. drilling
Shell, No. 1 Mon Bluf, Kern Co.	3-28-28	4,200	fishing
North American, No. 1-A Delano, Kern Co.	5-25-26	4,376	fishing
Fresno Madera Oil Co., No. 1 Clovis, Fresno	18-21-21	4,016	fishing
Barneyberg Oil Co., No. 1 Brown, San Luis Obispo	26-32-14	2,296	cleaning out
Richfield, No. 1 Wreden, San Luis Obispo Co.	10-29-17	3,130	suspended
Richfield, No. 1 Carissa, San Luis Obispo Co.	15-29-17	2,780	hr. sh. drilling
Union Oil Co., No. 1 Huasna, San Luis Obispo Co.	34-32-15	1,483	hd. sd. drilling
San Luis Syndicate, Well No. 1, San Luis Obispo Co.	29-31-15	2,470	sd. sh. drilling
Sequoia Oil Co., Well No. 1, San Mateo Co.	13- 7- 5	1,430	plug back
Shell, No. 1 Cowell, San Mateo Co.	8- 6- 5	5,906	hd. sd. drilling
Shell, No. 1 Butts, San Mateo Co.	16- 6- 5	2,761	hd. sd. drilling
Shell, No. 1 Mossi, Petaluma	8- 5- 6	1,488	hd. sd. drilling
R. Y. Hamlyn, Well No. 1, Alameda Co.	3- 5- 2	135	sd. drilling
Thomas & Hammill, Well No. 1, Alameda Co.	16- 3- 3	1,070	water trouble
Tepesqui Oil Co., Well No. 1, Santa Barbara Co.	3- 9-32	1,692	cleaning out
Becker, Geo. F., No. 1 Summerland, Santa Barbara	33- 4-25	3,045	testing
Twin State Oil Co., No. 1 Molloc, Santa Barb. Co.	20- 4-27	2,816	hd. sd. drilling
Fort Wayne Synd., No. 1-A Goodcell, Madera Co.	22-10-17	.....	location
Continental Oil Co., No. 2 Smith, Colusa Co.	31-18- 4	4,300	cleaning out
Colusa Oil Co., Well No. 1, Colusa Co.	31-15- 4	374	hd. sd. drilling
Nuna Oil Co., Well No. 1, Colusa Co.	19-15- 4	300	sd. drilling
Marland Oil Co., No. 1 Bradley, Monterey Co.	32-24-11	1,901	hd. sd. drilling
Shell, No. 1 Bradley, Monterey Co.	32-24-12	.....	building road
North Counties Oil Co., Well No. 2, Humboldt Co.	36- 2- 1	1,882	oil in hole
Humboldt Oil Co., Well No. 1, Humboldt Co.	6- 2- 1	2,880	hd. sd. drilling

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This Week	Daily Average	Total Last Week	Daily Average	This Year to Date	Same Time Last Year
Crude oil	87,850	12,550	.....	.....	1,436,819	1,739,694
Fuel oil	.....	.....	.....	.....	.....	2,214,119
Diesel and gas oil	.....	.....	.....	.....	449,739	1,019,661
Gasoline	.....	.....	153,064	21,866	2,041,328	1,805,768
Coastwise—						
Crude oil	312,818	44,688	465,726	66,532	3,616,448	6,712,590
Fuel oil	392,339	56,048	243,468	34,781	3,979,399	3,261,480
Diesel and gas oil	80,500	11,500	33,665	4,809	306,096	53,071
Gasoline	231,787	33,112	192,306	27,472	2,646,491	2,002,875
Kerosene	.....	.....	.....	.....	22,865	40,605
Tops	.....	.....	47,500	6,786	124,992	.....
Exports—						
Crude oil	62,250	8,893	39,125	5,589	524,183	727,007
Fuel oil	493,781	70,540	584,262	83,466	5,715,366	6,529,268
Diesel and gas oil	.....	.....	51,792	7,399	577,384	226,225
Gasoline	132,210	18,887	89,081	12,726	1,058,733	403,822
Tops	.....	.....	.....	.....	.....	72,371
Kerosene	66,881	9,554	.....	.....	889,453	573,343

TANKER SHIPMENTS FROM SAN FRANCISCO AND GULF COAST PORTS

Diesel and gas oil	.....	.....	77,121	11,017	342,425	251,458
Gasoline	.....	.....	.....	.....	330,343	660,161
Lubricants	68,915	9,845	.....	.....	138,769	111,970
Coastwise—						
Fuel oil	.....	.....	57,406	8,201	815,522	1,568,689
Diesel and gas oil	.....	.....	10,053	1,436	78,495	134,308
Gasoline	.....	.....	163,685	23,384	749,735	1,207,020
Kerosene	.....	.....	5,172	739	68,321	30,674
Exports—						
Crude oil	.....	.....	.....	.....	25,029	.....
Fuel oil	9,690	1,394	.....	.....	457,946	369,767
Diesel and gas oil	.....	.....	.....	.....	10,400	.....
Gasoline	118,786	16,969	113,629	16,233	1,140,665	1,023,487
Kerosene	.....	.....	.....	.....	141,420	356,914
Lubricants	.....	.....	.....	.....	.....	9,120

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Perry County, Ohio, Has 302 Bbl. Wel

Second Best Producer for Year in Southeastern Ohio. Coshocton County Gets 105-Bbl. Producer. Activity in Both Areas

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Mar. 26.—Since the eastern fields were last reviewed there was some improvement in the size of the wells completed, but fewer in number. The usual rule prevailed, southeastern Ohio furnishing the best, one of the completions being the second best producer completed this year. Neither the West Virginia or southwest Pennsylvania fields completed any wells much better than the average size.

No wildcat work is under way, except in a few of the lower southwest West Virginia counties. At this time Wayne County is receiving the most attention. This county, like several others, has not been fully tested and in some of the wells completed a fair showing of oil has been developed.

Best Producers for the Week

The largest well completed during the week is located in the NW of Section 21, Harrison Township, Perry County. It is William Cline & Co.'s second test on the Flora Sowers farm. It flowed 302 bbls. the first 24 hours after shot in the Clinton sand. This county continues to furnish the best producers of any in the southeast Ohio fields.

In the SE of Section 15, Perry Township, Coshocton County, the Preston Oil Co. completed in the Clinton sand No. 4 on the E. Ray and Otto VanWinkle farm. It produced 105 bbls. the ensuing 24 hours. There are more wells drilling and starting in this county than for some months. In Westland Township, Guernsey County, the Davis Brothers Co. has a 65-bbl. producer in the Niagara lime at a test on the John Ruby farm. In Section 17, Richland Township, Holmes County, the Kemrow Co. got a gasser good for 3,250,000 feet at No. 3 on the M. V. Purdy farm.

Southeast Ohio

In Salisbury Township, Meigs County, the Coal Hollow Oil & Gas Co. drilled No. 5 on the R. T. and R. H. Burdette farm into the Macksburg 500-foot sand and got what they thought was a gasser. It blew out and they are now drilling it to the Berea grit. In the same township, Wheeler & Griffith are drilling a test on the J. B. Wells farm.

Washington County

In Aurelius Township, Washington County, W. T. Warren and others have a 4-bbl. pumper at a second test on the J. C. McBride farm. In Grandview Township, Thomas McVey & Co. have a duster on the D. W. Burnett farm. In Independence Township, Thomas McKay and others have a rig up on the Phoebe McMahan farm. John Rau and others have a rig up on the Henry Steinhoff farm. The Henderson Oil Co. and others have the rig completed for a test on the John Berge farm. In Section 4, Newport Township, Burton & Co. have a duster at a second test on the John Vanscoy farm. In Section 23, Wesley Township, Burns & Co. have a light gasser at No. 6 on the George Wymer farm. In Palmer Township, the Pure Oil Co. got a fair gasser at No. 17 on the O. Breckenridge farm. In Fairfield Township the Preston Oil Co. is due in the sand on the Watterson-Smith farm. In Salem Township, Weir & Schram are drilling in the sand at a test on the C. C. Palmer farm.

In Section 14, Hanover Township, Licking County, the Hope Construction & Refining Co. completed and shot in the Clinton sand a test on the W. T. Evans farm. The well produced 16 bbls. the ensuing 24 hours.

Good Gasser in Holmes County

The Kemrow Co. has completed in the Clinton sand No. 3 on M. V. Purdy farm. It found no oil, but is a gasser good for 3,250,000. It is located in Section 17, Richland Township, Holmes County. The well got the pay at a total depth of 3,340 feet.

Duster in Noble County

In the NE of Section 31, Sharon Township, Noble County, the Twin Six Oil Co. has completed a test on the W. S. Myers farm. It showed very little oil in the Berea grit and will go into the discard.

In the NE of Section 25, Island Creek Township, Jefferson County, the Sanders Oil Co. has completed a test on the George Hosicroft farm. It is a 3-bbl. pumper in the Bereat grit. In Section 3, Trimble Township, Athens County, the New Straitsville Oil & Gas Co. has a duster in the Berea grit at a test on the Thomas Biddison farm.

Meigs County

In the NW of Section 26, Bedford Township, Meigs County, the Ohio Fuel Supply Co. has drilled a test on the D. A. Bois farm through the Berea grit and the hole filled up 800 feet with fluid the first 36 hours.

Gassers in Licking County

In Perry Township, Licking County, M. F. Whitehall has gassers at his two tests on the Samuel Barkholder farm. In Fallsbury Township, J. W. Cashdollar has a 5-bbl. pumper at a test on the Helen Young farm.

In Section 2, Franklin Township, Moore & Adams have started to drill a test on the Lina Ryan farm. In Hanover Township, the Hope Construction & Refining Co. has started to drill a second test on the J. W. Shaw farm. In Section 11, Mary Ann Township, George L. Long is drilling on the C. W. Dwiggins farm.

In Pike Township, Coshocton County, the Hope Construction & Refining Co. has a 5-bbl. pumper in the Clinton sand at a second test on the C. Blair farm. In the same township, the Leonard Oil & Gas Co. is due in the sand on the W. D. Powers farm. The Ohio Oil Co. is drilling a test on the Markley farm. The East Ohio Gas Co. is drilling a second test on the Shellohan farm.

Licking County Duster

In Section 17, Madison Township, Licking County, the Hope Construction & Refining Co. has completed a test on the W. E. McKnight farm. It is a duster in the Berea grit at a depth of 750 feet.

Athens County Dusters

One-half mile northwest from Beebe, in fractional Section 18, Rome Township, Athens County, O. C. Dunn has a duster in the first Cow Run sand at his No. 17 on the Mack Finsterwald farm. One-fourth mile west of Sharpsburg, in Section 30, Berene Township, the Ohio Fuel Supply Co. completed No. 3 on the Black Diamond Coal Co.'s property. Nothing was found in the Berea grit. They drilled it through the stray, Gordon and fifth sands and found all formations barren.

Morgan and Washington Counties

Three miles west of Chesterhill, in fractional Section 24, Marion Township, Morgan County, Charles Woodyard and others have completed in the first Cow R... sand No. 5 on the Charles Woodyar... farm. It is a duster. On Eleftis R... Section 2, Independence Township, W... ington County, Thomas McKay and o... ers have completed a test on the Phoe... McMahan farm. It is a light pump... not good for more than 2 bbls. a day, ... the salt sand. In Fearing Townsh... Washington County, J. E. Price and o... ers have a rig up on the Phil Kyl... farm.

In Cross Creek Township, Jefferso... County, Meeder & Co. have a rig up o... the Robert Powell farm. In the same township, the Amber Oil Co. has a ri... completed for a test on the Charles Wi... liams farm. In the same township, th... Berea Oil Co. is drilling on the J. M... Edmeston farm. In Section 3, Black... burn and others have completed a te... on the E. T. Cashier farm. It is a duste... in the Berea grit.

The Hope Construction & Refining Co.'s No. 1 on the J. M. Sidle farm in Hopewell Township, Muskingum County, is a very light pumper in the Clinton sand. In Section 23, Caanan Township, Athens County, the Bowman Oil & Gas Co. has a gasser on the C. H. Brown farm. In Alexander Township, J. A. Ronshausen and others have a salt sand gasser on the Harry Hooper farm. In Athens Township, the Wehrle Co. has a gasser in the Berea grit at a test on the Charles H. Williams farm. In Lee Township, Cook and others have started to drill a test on the Hugh Mulligan farm. In Caanan Township, Fred Dowler has started to drill a test on the Frank Dowler farm.

In Olivet Township, the Parmian Oil & Gas Co. is drilling at 1,500 feet on the Clyde Merry farm. In Enoch Township, Way Wicken and others have a gasser in the Berea grit at a second test on the John Crock farm. In Section 28, F... Markley and others have a duster at a test on the G. B. Bonar farm. In Elk Township, the Stoffel Drilling Co. had the same luck at a test on the L. E. Stoffel farm. In Section 1, Jefferson Township, R. C. Houlin and others have a very light pumper at a test on the S. A. Schafer farm.

West Virginia

In Liberty district, Marshall County, West Virginia, the Manufacturers Light & Heat Co. has completed a second test on the L. and J. R. Anderson farm. It is estimated good for 10 bbls. a day in the Big Injun sand. In Geary district, Roane County, the United Fuel Gas Co.'s test on the J. Q. Dickison farm is a gasser in the big Injun sand.

The Owens Bottle & Machine Co. has a salt sand gasser at a test on the O. M. Prickett farm in PawPaw district, Marion County. In Grant district, Doddridge County, Trainer Brothers and Travis Brothers have a gasser in the Big Injun sand at a test on the E. A. Martin farm.

Lewis County

In Hackers Creek district, Lewis County, Earl Goodwin's test on the E. Lowther farm is a fair gasser in the Gordon sand. In Grant district, Wetzel County, the Carnegie Natural Gas Co. has a gasser in the Gordon sand at a test on the J. H. Ott farm.

Clay County

In Henry district, Clay County, the Virginian Gasoline & Oil Co. completed in the Big Injun sand No. 5 on the O. D. Summers farm and estimated to be good for 10 bbls. Within the past few months there has been quite a drop in operations in this county.

On Sinking Creek, DeKalb district, Gil...

(Continued on Page 153)

BIGGEST GAS WELL IN MICHIGAN AT MUSKEGON, 5,000,000 FEET

By Special Correspondent

MUSKEGON, Mich., Mar. 19.—Three completions into the Traverse formation in the Muskegon, Mich., Field last week resulted in the development of the largest gas well in the State of Michigan, a third dry hole, and a well that was so nearly dry that drillers are going on to the Dundee in search of a greater show of oil.

The Lima Oil Corp., of which Frank L. Maire of Lima, Ohio, is president, struck gas at a depth of 1,608 feet, which increased in flow at 1,610 feet, where it was gauged at 4,972,800 feet per day. The wall had been capped and negotiations are now on for the sale of the gas for commercial purposes to the Muskegon Traction & Lighting Co. Whether drilling will be resumed on this well remains to be seen, for it is very valuable for the gas and the company is awaiting the arrival of a gate lock ordered from Chicago to shut it in. This well appears to have got the sand a little higher than the other wells so far drilled in the field, and underlying this heavy gas volume, may be an oil well of large production. Only further drilling will determine this point.

R. B. Newcomb, assistant state geologist, who was on the ground when the heavy gas flow started, said that it was the "biggest gas well in Michigan." The only other well that has approached its flow is one which produced about 2,000,000 cubic feet per day at Owosso.

Oil Production

It is estimated that the two present producing oil wells of the Muskegon Oil Corp. also have a combined flow of about 1,000,000 feet of natural gas. Their oil production for the past week has been 45 and 125 bbls. every 24 hours, respectively.

The new gas well is on the 40-acre property owned by Margaret Figge, which is the SE of the NW of Section 9, Muskegon Township.

The C. M. Bowers-A. W. O'Keefe well on the property of Charles W. Smith, or the NE of the SW of Section 3, Muskegon Township, came in a "duster" in the Traverse formation when water was struck at 1,775 feet. Drilling operations have been stopped at 1,800 feet, but may be resumed if it is decided to go down to the Dundee at about 2,200 feet.

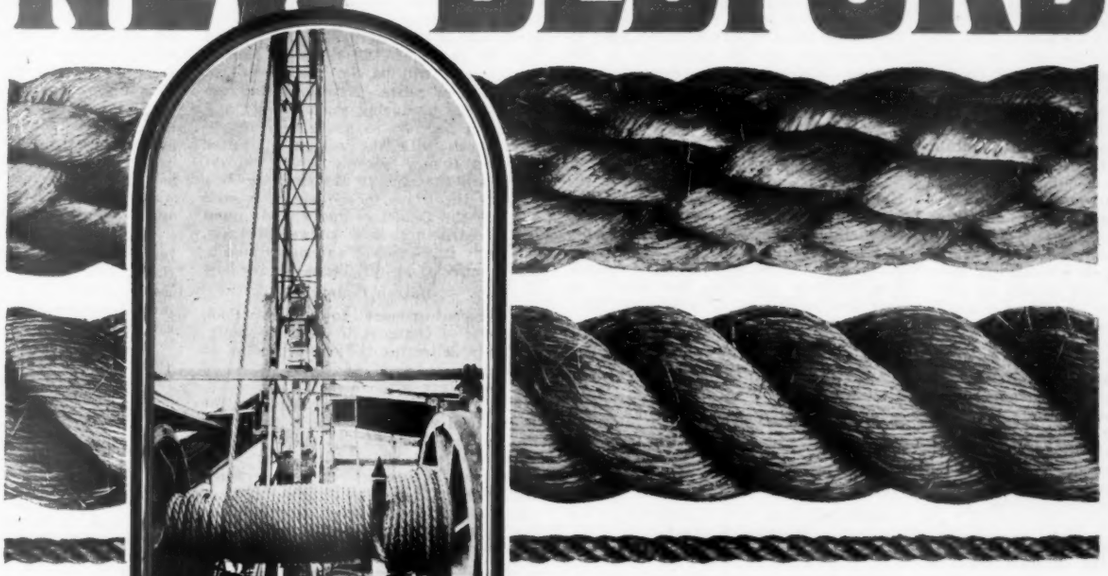
The Citizens Petroleum Co.'s Becker Brothers well in the NE of the SW of Section 4, Muskegon Township, is being drilled to the Dundee sands after three 2-foot stretches of pay sand were found between 1,725 and 1,745 feet. Operators considered shooting the well, but finally decided to drill to the Dundee for a test of the territory. The Dundee should be reached around 2,200 to 2,300 feet.

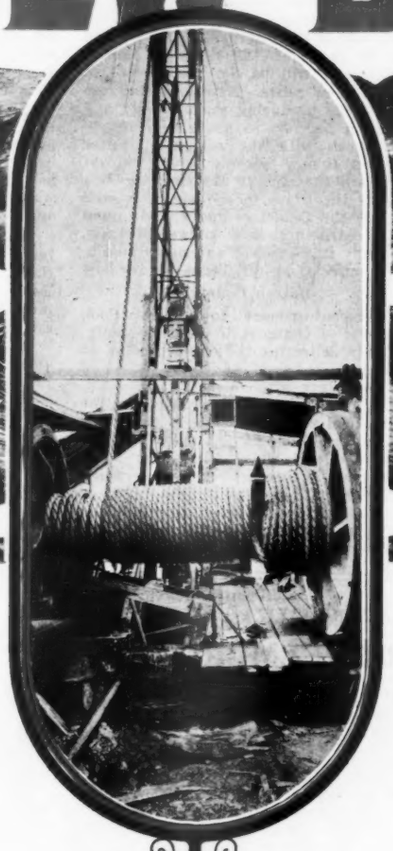
Two other wells are preparing to drill into the Traverse sands this week and three more are approaching the top of the sands. The two which will be drilled in shortly are the J. B. Reed No. 1 Shoup in the NW of the NW of Section 8, Muskegon Township, and the Dixie Oil Co.'s No. 1 Reeths in the SE of the SW of Section 9, on the Muskegon River flats directly below the discovery well of the field. This company's No. 1 Figge lease is down about 800 feet. Joiliet-Morris Co.'s No. 1 Nichols is about 900 feet, and several others from 300 to 800 feet.

A leak in the 6-inch casing delayed the

(Continued on Page 150)

NEW BEDFORD





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CONTINENTAL

Glasgow Field, Ky., Is Coming Back

Extension of Lecta Pool Finds 100-Bbl. Wells. Ohio and Daviess Counties Add Several Good Producers During Week

By Whit
Staff Correspondent, Kentucky-Tennessee

GLASGOW, Ky., Mar. 24.—One of the oldest producing fields in Kentucky is coming back with better results than ever before obtained by the drill, the Glasgow Field of Barren County which has produced oil for more than 50 years. If the county can maintain its present success in extending production it is destined to become a factor again in the Blue Grass State. After the Bowling Green Field of Warren County quieted down several years ago the Glasgow Field led in completed work for a long period, or until the rich finds made in Ohio County brought the territory around Whitesville, Pellville, Hartford and Owensboro into the limelight, and then the laurels went to Ohio, Daviess, McLean and Hancock Counties, and continues spreading over the western part of Kentucky, covering several new counties where recent wildcat wells have been drilled. Some of the operators have crossed the Ohio River both east and west of Owensboro and are leasing lands in the extreme southern part of Indiana.

Lecta Pool Extension

Coming back to the Glasgow Field of Barren County, an extension has been found to the Lecta Pool, a few miles southeast from Glasgow that is showing the best producers in the entire county, as wells with 100 bbls. initial production have been a scarcity there. Two farms in this extension are particularly rich in production at depths around 400 to 500 feet. The Casey Jones farm has just had five additional wells brought in on it, each good for 100 bbls. This lease is now running approximately 900 bbls. daily. The other lease is the J. W. Pace farm, which is also very rich and with six completed wells on it, is producing about 450 bbls. daily, while the Casey Jones farm has 11 wells producing. Other and adjoining leases are showing excellent production, such as the Pedigo, Nichols, Morton, Glass, Browning and other farms. The monthly production has gone above 50,000 bbls. for the first time in the history of the Glasgow Field. During February, the Paragon Development Co. ran a total of 41,273.38 bbls. through its Barren County lines and the Stoll Oil Refining Co. ran 12,100.29 bbls. through its lines in the same county, making a total for the month of 53,373.67 bbls., against a total of 29,147.76 bbls. for January, an increase in runs from the county for February over January of 24,225.91 bbls.

Some mighty good producers are being uncovered in Ohio County, which is credited with two wells of 150 bbls. each and one at 100 bbls., while Daviess County comes forward with a second well on the Jim Brown farm, reported good for 200 bbls. initial production, or as good as the initial well on the same farm which is looked upon as the best found in the county outside of the Hayden farm well which brought about the present excitement. McLean County, adjoining Ohio and Daviess Counties, is not doing quite so well as the well on the Ford farm, adjoining the good well on the Ratcliff farm, is reported showing for a dry hole, although that is characteristic of the sands of all parts of Kentucky.

All that is required now is the drying up of the roads and good weather to bring about an active drilling campaign in many counties that have made good showings during the fall and winter in the western division. Quietude prevails in the eastern division, although there is plenty of territory to develop in that part of the State, as it has been only scratched over. Little drilling has been done along the Ohio River area in the northern part of the State in the eastern division and prospects are very good for the finding of new productive pools at comparatively shallow depths, from Cincinnati east to the West Virginia line.

Week's Work

A summary of the week's work in the Kentucky-Tennessee fields show 35 completions, 23 producers with an initial production of 1,539 bbls., 11 dry holes and 1 gas well. Compared with the previous week, there were 17 more completion, 10 more producers, 888 bbls. more new production and 7 more dry holes. The wells were distributed by counties and districts as follows:

County—	Comp.	Oil Wells	Prod.	Dry	Gas
Barren	11	11	760	0	0
Daviess	8	3	275	5	0
Ohio	6	5	425	1	0
McLean	1	0	0	1	0
Kentucky	26	19	1,461	7	0
Tennessee	9	4	78	4	1
Total	35	23	1,539	11	1
Last week	18	13	651	4	1
Difference	17	10	888	7	0

Western Kentucky

With the drill going in an active way in Barren, Ohio, Daviess, and McLean Counties, wildcatting in several other counties in the western division, and leasing activities going on in almost every one of the counties of the western half of the State, it looks as though the summer will be the most active in the past few years. New operators are visiting the producing regions daily and getting a foothold so as to be ready to start work with the advent of better weather. It now looks as though the test work will continue to the extreme west edge of the State to the north as well as along the Tennessee line where a number of structures are known to exist, especially in Christian and other adjoining counties along the Tennessee borders.

Barren County

The recent extension to the Lecta Pool, northeast of Glasgow, in Barren County, is surely delivering the crude product in great style, it being the richest yet found in the county after many years of operation and where least expected. The Lecta Pool was opened about two years ago by the Esslinger Oil Co., and some very nice wells were found, but along with them were numerous dry holes. Still the drill kept going from spot to spot, until this rich area was found on the Casey Jones farm and then it spread over additional farms, and is still widening out and covers a large acreage between the north extension of Beaver Creek and Skeggs Creek.

The Sampson Oil Co. made a wonderful strike when it opened the new extension to the Lecta Pool, by bringing in good wells on the Casey Jones farm. This company has just completed Nos. 7, 8, 9, 10 and 11 on this lease and each well is good for 100 bbls. under pump from the Blue sand formation at less than 500 feet in depth. This lease now has a daily production of 900 bbls. which is handled by the Paragon Development Co.'s pipe line.

Wood Oil Co.'s No. 5 J. W. Pace farm, same pool, produced 75 bbls. initially, and No. 6, same farm, 80 bbls. Esslinger Oil Co.'s No. 4 W. S. Morton farm, same pool, is a 20-bbl. pumper, and the same company's No. 2 Glass farm is a 20-bbl. producer, with a heavy volume of gas. White and Sandal's No. 1 Pedigo farm, same pool, is a 15-bbl. producer, while No. 2 is good for 50 bbls. initially.

Ohio County

Walter Daly and Jack Lowman, operators of Cleveland, Ohio, drilled into 40 feet of sand at their second test well on the south 100 acres of the Bob Hamilton farm, east of Mount Moriah Church, in the southeast extension of the Ambrose Pool in Ohio County. This well is reported good for from 150 to 200 bbls. initially, from a depth around 630 feet. No. 1 on this farm was drilled several months ago and is a small pumper, being located on the south end of the 100 acres, almost a mile due south of No. 2 which is on the north line near the good wells of the Cumberland Petroleum Co. and others on the north 100 acres of the Bob Hamilton farm. This territory is proving as rich as the heart of the Ambrose Pool to the northwest.

The Cumberland Petroleum Co. and others' No. 6 on the north 100 acres of the Bob Hamilton farm is also good for 150 bbls. initially. Nos. 7 and 8 will start rigging up at once and Daly and Lowman will start Nos. 3 and 4 on their lease on the south 100 acres of the same farm.

Mecca Oil Co.'s No. 12 on the Corn Wells 130 acres, in the western edge of the Ambrose Pool, is rated at 100 bbls. initially.

Kelly Pool

In the Kelly Pool, west of the Midkiff Pool and northwest of the Ambrose Pool, Oliver Jenkins and others' second well on the Joe Bellamy 25 acres, showed an initial production of 18 bbls. at 431 feet. In the same pool, J. S. Lyle and others' test on the M. Medcalf farm, drilled in dry at 465 feet.

In the Midkiff Pool, J. T. Hare & Son's second well on the W. B. Howard 16 acres, produced 8 bbls. initially. A string of 310 feet of casing was set in this well; sand at from 350 to 358 feet, and went to a total depth of 360 feet, and was shot with 30 quarts.

Trico Oil & Gas Co. is starting Nos. 4 and 5 on the Gilbert Jolly farm, west of the Ambrose Pool and a couple of miles west of Buford, Medley Brothers failed to find oil in their initial venture on the Eliza Jewell 90 acres, in the Ambrose Pool, and are moving the drilling outfit to the west side of the farm for No. 2.

Daviess County

Another good producer has been found in Daviess County, in the Browns Valley area in the southern part of the county, by Miller & Damron, in a second attempt on the Jim Brown farm, and it is reported as good as No. 1 which is a 200-bbl. initial producer. These two wells

(Continued on Page 145)

SHALLOW WELL IN TIFFIN FIELD; GOOD PRODUCER IN ELMORE AREA

By Whit
Staff Correspondent, Central West

FINDLAY, Ohio, Mar. 26.—Operators in the Central West Field are looking over every available acre anywhere near production and within old drilled over acreage where wells have been abandoned in the old Trenton Rock fields of Ohio and Indiana. There has been a great amount of oil taken from the Trenton Rock sand, but the prevailing idea is that less than one-half the crude has been taken as yet from that thick formation. Only a few days ago near Elmore, in Ottawa County, Ohio, a well was drilled in on the Magsig farm, where there were 16 producing wells, still No. 17 produced an initial of 40 bbls., drilled but 47 feet into the sand which has a thickness of close around 800 feet, with plenty of lower sand to test out.

In Wood County, south of Perrysburg, nine wells have been producing for a long period and No. 10 just brought in shows an initial of 38 bbls. at but 24 feet in the Trenton.

A little excitement prevails northwest of Tiffin, in Seneca County, in the Lima Field, over what is reported an excellent showing at only 50 feet in the sand, where wells in the original Tiffin Field found the big pay at below 200 feet in the sand. The new well which is on the Kinsnett farm, is said to have flowed at the rate of 11 bbls. each flow, and then died down, only to recover and start flowing again.

Four completions in the Lima Field bring out a new production of 89 bbls.; Indiana, 2 completions, 1 dry hole and 23 bbls.; Illinois, 1 well, 20 bbls.; Central Ohio, 7 wells, 4 oil wells with a combined initial production of 65 bbls., 2 dry holes and 1 gas well, making a total for the Central West Field of 14 completions, 8 oil producing wells, with an initial of 197 bbls., 3 dry holes and 1 gas well.

Lima Field

In the Lima Field of northwestern Ohio, the best of the late completions was made by Gust F. Magsig & Son, in No. 17 well, 600 feet from the north line and in the center of the west line of the Charles Magsig farm, which topped the Trenton at 1,249 feet and drilled 47 feet into the sand. the initial production amounting to 40 bbls. It is the best well found in the Elmore Field, and is in Section 23, of Harris Township, Ottawa County, some 22 miles southeast of Toledo.

In Perrysburg Township, Wood County, south of the historic town of Perrysburg, W. F. Johnson's No. 10 in the northwest corner of the D. Lahy farm, mapped as the B. Jones farm, in the southwest quarter of Section 34, showed an initial production of 38 bbls., from a total depth of 1,247½ feet. Sand was topped at 1,223½ feet and went 24 feet in the sand. North of Fostoria, in Perry Township, Wood County, W. H. Dennis and others' No. 6 in the southeast corner of the Bressler Brothers' farm, mapped as the Phil Bressler farm, in the southeast quarter of Section 6, produced less than a barrel the first 24 hours. Sand was found at 1,126 feet and drilled 100 feet into the sand.

In Portage Township, Hancock County, Kirk, Moran & Flanion's No. 11 well, 990 feet from the north line and 1,320 feet from the east line of the Samuel Brickman farm, in the northeast quarter of Section 20, pumped an initial of 10 bbls., with sand being topped at 1,312 feet and drilled 48 feet in the sand.

Tiffin Field

The new excitement in the Tiffin Field in Liberty Township, Seneca County, is brought about by the nice showing found by the Murray Valley Oil & Gas Co., sometimes called the Buckeye Oil Co. test, on the Jacom Kimmett farm, Section 28. Preparations had been made to drill this well to a depth of 100 or

(Continued on Page 131)

Why need a Crank Shaft "Slop Around in it's Bearings?

HOPE

Worn, loose main bearings are the result of unbalanced forces acting on the shaft—for instance, the thrust of the pistons in a direction at right angles to the pull of gravity on the shaft and fly-wheels.

In the Hope Vertical Compressor, all forces are vertical and in a straight line—both piston thrust and weight of shaft and wheels.

As a result, the main bearings of the Hope Vertical wear very, very slowly—and not out of line with the pistons. Alignment is always maintained. Side thrusts and resultant looseness and leakages are avoided.

This is but one of many outstanding advantages of the Hope Vertical Compressor described in Bulletin 1601. *Write for your copy.*

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DESIGNERS MANUFACTURERS

Natural Gas Developments

A.G.A. CONFERENCE ON GAS DISTRIBUTION

NEW YORK, Mar. 24.—Advance indications point to an attendance of more than 300 at the Fifth Annual Spring Distribution Conference of the Distribution Committee of the American Gas Association at the Hotel Stevens, Chicago, April 12 and 13.

Invitations are being sent to all manufactured and natural gas company members of the association and manufacturer company members interested in distribution problems. M. I. Mix of the Peoples Gas Light & Coke Co. of Chicago is chairman and H. W. Hartman, assistant manager of the American Gas Association, is secretary.

A feature will be an open forum in the afternoon of April 13, at which all members will be able to introduce subjects on which they desire discussion. On Saturday morning arrangements have been made for an inspection trip to the Gary Plant of the National Tube Co. to see how steel pipe is made. The Peoples Gas Light & Coke Co. will provide entertainment for visiting ladies to the distribution conference. On Thursday afternoon, there will be a demonstration and inspection trip through the home service department. On Friday afternoon there will be a luncheon and sightseeing trip. The program follows:

THURSDAY, APRIL 12

Morning—10:15 A. M.

Report of Committee on Pipe Coatings, J. K. Crowell, Westchester Lighting Co., Mount Vernon, N. Y.

Report of Committee on Pipe Joints, C. S. Hagerman, American Light & Traction Co., New York.

Joint Practice as Applied to Long Distance High Pressure Transmission Lines, E. V. Kesinger, The Empire Companies, Bartlesville, Okla.

Life of Pipe, R. G. Griswold, H. L. Doherty & Co., New York.

Afternoon—2:00 P. M.

Report of Committee on Meters, G. A. Lane, The Peoples Gas Light & Coke Co., Chicago.

Advantages of the Meter Bar, E. S. Umstead, Providence Gas Co., Providence, R. I.

Report of Committee on Cast Iron Pipe Standards, Walton Forstall, United Gas Improvement Co., Philadelphia, Pa.

Report of Committee on Pipe Materials, V. C. Heddick, Rochester Gas & Electric Corp., Rochester, N. Y.

FRIDAY, APRIL 13

Morning—10:00 A. M.

Report of Committee on High Pressure Transmission of Gas, F. A. Lydecker, Public Service Electric & Gas Co., Newark, N. J.

Automatic Pressure Boosters for District Regulators and Pressure Regulation for High Pressure Holders, E. H. Enander, Public Service Co. of Northern Illinois, Chicago.

Report of Committee on Distribution Portable Equipment, J. H. Braine, Brooklyn Union Gas Co., Brooklyn, N. Y.

HARDIN TO USE GAS

CASPER, Wyo., Mar. 24.—The people of Hardin, Mont., Big Horn County, have decided to obtain natural gas for that city themselves. The Soap Creek Field lies in the south end of the county and some old wells drilled years ago are still making gas for a ranch east of Hardin. A local company has been formed with a capital of $50,000 to put down a well for gas and the stock has all been taken by residents of Hardin. In case a large gas flow is developed, the city of Sheridan, Wyo., is to have a supply of gas.

OKLAHOMA CITY RATES

OKLAHOMA CITY, Mar. 24.—A reduction in domestic gas rates charged by the Oklahoma Natural Gas Corp., from 60 cents per 1,000 feet to 57 cents was announced by the Corporation Commission when the company formally took over the gas properties in Oklahoma City of the Oklahoma Gas & Electric Co. At the same time industrial gas rates in the city were reduced from 20 cents to 15 cents. The Oklahoma Natural heretofore has delivered gas at the city gates, where it was distributed by the Oklahoma Gas & Electric Co.

INDUSTRIAL GAS CO. FILES BOND FOR KANSAS CITY-AMARILLO LINE

KANSAS CITY, Mo., Mar. 24.—The Industrial Gas Co. has accepted the franchise granted by Kansas City last August and at the same time put up $250,000 surety bond as a guarantee to carry out the terms.

Construction of the gas line from the company's field in the Texas Panhandle to Kansas City is to start within 30 days, under the terms of the grant, and is to be completed in a year.

The franchise requires the grantees to sell gas to the present distributing company, a Doherty holding, for domestic use up to 50,000,000 feet a day at 25 cents a thousand. That would be 15 cents a thousand cheaper than the distributing company contends it is now paying at the city gates.

The Industrial company's communication and the surety bond were filed in the office of Charles W. Regan, city clerk, a few minutes before 5 o'clock on the last day on which the acceptance could be made.

The bond was made by the National Surety Co. of New York. It provides, in addition to the terms of the franchise, that the work on the project must start within 30 days and be completed in a year.

The contract for the project already has been awarded to Smith Brothers, Inc., builders of the new water tunnel under the Missouri River. Charles S. Foreman, who superintended the construction of the tunnel, will have charge of the pipe line project.

The cost of the line and the industrial distribution system in Kansas City was estimated at $30,000,000 by Mr. Foreman.

Mr. Foreman said 11 construction gangs would be put to work on the line—

(Continued on Page 154)

GAS LINE PROJECTS UNDER WAY IN ROCKY MOUNTAIN SECTIONS

By Tolbert R. Ingram
Rocky Mountain Bureau, The Oil and Gas Journal

DENVER, Colo., Mar. 24. — Several pipe line projects in the Rocky Mountain area are now under way, another soon will be started and a third appears to have been abandoned, at least temporarily. The Amarillo-Denver line being constructed by the Colorado Interstate Gas Co. and affiliated interests is making rapid progress due to favorable weather. At present rate of construction it is probable that the division between Amarillo and Clayton, N. Mex., will be finished by May 1, and the division from Clayton to Denver by June 1, and that the entire line will be ready for testing by the middle of June. This is several months earlier than expected. Laying of a 10-mile line from the main line to the steel works of the Colorado Fuel & Iron Co. at Pueblo has commenced. This line will go under the Arkansas River. Laying of line under Cherry Creek at Denver is also under way. Approximately 1,500 men are at work on the Clayton-Denver division.

Pueblo Franchise

Pueblo electors will vote on April 6 on franchise for natural gas for the Pueblo Gas & Fuel Co., a subsidiary of the Public Service Co. of Colorado. Rates proposed in the franchise are the same to domestic consumers in Denver under the Public Service Co. of Colorado's franchise. These provide a charge of 90 cents for first 400 feet or less per month, 15 cents per 100 for next 600 feet, 12 cents for next 1,000 feet, 7½ cents for next 1,000 feet, 6 cents for next 7,000 feet, and 5 cents per 100 feet for excess above 10,000 feet per month.

The Public Service Co. offered the city of Colorado Springs $570,000 for its municipally owned distribution plant and for a franchise, naming same schedule of rates as proposed at Pueblo. The City Council has gone on record as opposing sale of plant or granting franchise and the company is expected to apply to the electors for a franchise at a special election. While it has not been called, it probably will take place about June 1. A strenuous campaign for and against the franchise probably will be waged.

The town of Artesia, in Eddy County, New Mexico, is expected to have natural gas within the next few months, the supply coming from the Artesia Pool. A franchise was granted Flynn, Welch & Yates a few months ago. A deal was made recently whereby this franchise was turned to Albert T. Woods, and asso-

(Continued on Page 154)

CITY OF NEW ORLEANS ADVERTISES FOR GAS

NEW YORK, Mar. 24. — An unusual advertisement appearing in the New York Times and other newspapers has attracted attention. It is signed by A. J. O'Keefe, mayor of New Orleans, and invites investigation of "the unusual opportunity" to supply that city with natural gas. Proposals are invited as follows:

"The City of New Orleans now invites any interested person or interest to make due examinations and investigations to the end that natural gas may be furnished this city and invites any person or interest to be prepared to make proposals to the commission council, through the commissioner of Public Utilities at the earliest possible date along the following lines:

"1. That natural gas may be brought to New Orleans by anyone for distribution to consumers; or

"2. Natural gas may be piped to the city, and the city will distribute it to consumers by availing itself of the option granted to the city to purchase the present gas plant and distribution system now in operation, or operating an entirely new distribution system installed by itself; or

"3. Bringing natural gas to the city and distributing it through the system of New Orleans Public Service, Inc., after the system of that company has been taken over by the city and transferred to the persons securing the franchise; or

"4. Bringing natural gas to the city and distributing it to consumers under a contract with New Orleans Public Service, Inc., duly approved by this council, the distribution to be made through the system of that company.

"The commission council has already employed competent and reliable engineers to go over the situation and to make a report to this body on or before April 5, 1928. Proposals should be in the hands of the commissioner of Public Utilities before that date."

New Orleans Public Service, Inc., headed by local capitalists and the Electric Bond & Share Co. of New York operates the street cars and enjoys a monopoly of the business of furnishing gas and electricity in New Orleans. It succeeded several companies which tried unsuccessfully to do these things before 1922. The franchise under which it operates gives the city authority to regulate the rates for all these services through the device of determining the investment above the "rate base" and holding the earnings to 7½ per cent. New Orleans has been burning artificial gas at $1.30 per 1,000 feet.

Recently the public complained of an increase in gas bills. The company offered a reduction of 1 cent per 1,000 feet in return for a natural gas franchise. Later it announced that the terms of an old ordinance "to vend artificial and/or natural gas" gave it the franchise and that it had already started a pipe line and would have natural gas flowing into the city within 60 days.

The City Commission Council has declared it will not permit the sale of natural gas at this rate, and threatens to reopen the whole question of the "rate base" and seek to revalue the company's property.

PRIORITY ON DOMESTIC USE TO BE APPEALED

AUSTIN, Tex., Mar. 24.—Motions for rehearing have been filed in the Supreme Court in two important cases recently decided, one Lone Star Gas Co. vs. Municipal Gas Co., from Dallas, and the other State of Texas vs. Grayburg Oil Co., from Travis.

The first case is where the court rendered the decision that gas companies and other public utilities can not cut off the public because of a controversy between such concerns. The Lone Star Gas Co. gave notice of withdrawing the gas supply to the distributing company because of alleged breach of contract. The court held that it could not be done and that the remedy is an action for damages.

The second case is where the court held that gasoline sold to the United States Government and delivered to the officers on military reservations is subject to the State gallonage tax, that it was neither an interstate nor internal transaction.

NEW CARBON PLANTS

AUSTIN, Tex., Mar. 24.—The Railroad Commission has granted the Phillips Petroleum Co. two permits to burn natural gas in the manufacture of carbon black, for a total of 85,000,000 feet of gas daily, mostly of a sulphur content and not desirable for domestic or commercial use. It now blows into the air from the casing head plants, which are in Hutchinson County.

One plant to burn a maximum of 25,000,000 feet daily is in the Sanford Field and the other with a daily maximum allowance of 60,000,000 feet is in the McElroy area.

LOOK OVER THESE RECORDS:

Made by the Hope Engineering Company

On the Dixie Gulf Gas Company Line with Smithsteel Gas Line Pipe

(1) On Dec. 9 one crew laid 12,810 feet of 22" pipe in 9½ hours.

(2) On Dec. 24 one crew laid 13,650 feet of 18" pipe in 9½ hours.

(3) 296 miles were laid in 91 days by 4 crews.

A. O. SMITH CORPORATION
Oil & Gas Field Products Division
General Offices—*Milwaukee, Wisconsin*
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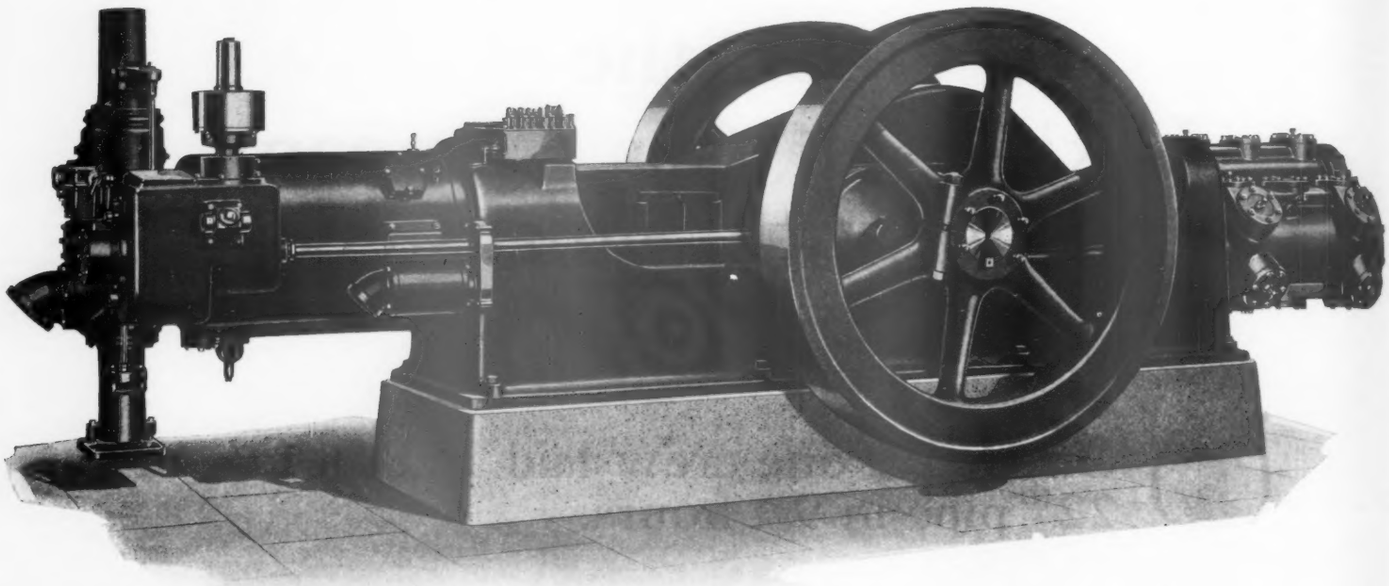
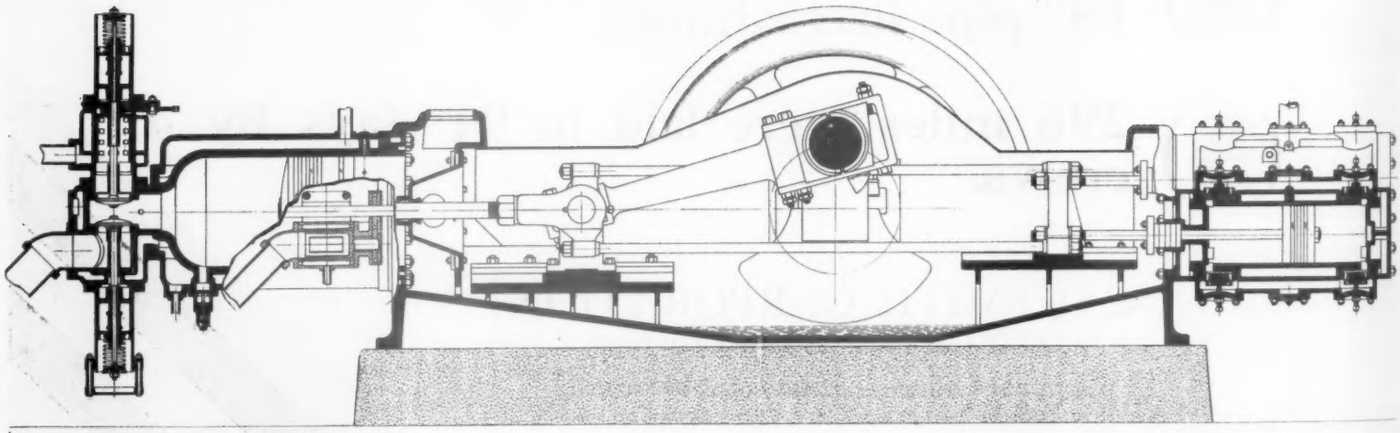
SMITHSTEEL GAS LINE PIPE

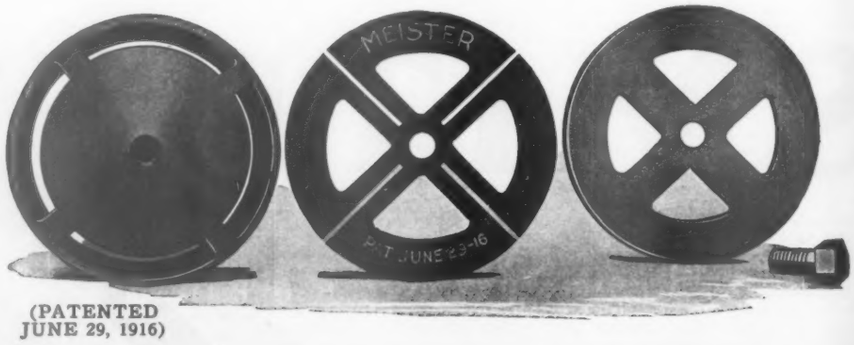
A NEW *and* GREATER

100 Horse Power—Direct





The most dependable, efficient and economical 100 H.P. unit ever developed—one that will fulfil the most exacting requirements, and render a longer service. The sectional view emphasizes the simplicity and accessibility of this engine.



(PATENTED JUNE 29, 1916)

PATTIN POWER

Driven Compressor

HERE is the new Pattin Super Power Engine that will carry the full rated horse power load, and practically eliminates all valve trouble. A unit far in advance of any heretofore offered.

This engine represents 15 years experience in building direct driven compressors, designed especially for building up Rock Pressure on old wells, and for any compressor work where heavy continuous service is required.

It is a four cycle, single acting, center crank type, with two fly wheels, fully enclosed, and fitted with our new Auxiliary Exhaust Sleeve Valve—the exclusive feature which makes it the most efficient engine on the market.

Features of the Super Power

Auxiliary Exhaust Valve

The main feature of our new engine is an Auxiliary Exhaust Port Sleeve Valve, (Patent applied for). It eliminates valve trouble. As practically all fire is taken out of cylinder through the center of this sleeve valve, and does not come in contact with the finished surface of the main valves, the greatest wear is eliminated. After exhaust takes place, this valve closes, and prevents loss of incoming charge or fouling by exhaust gases. No fire goes through the main valves.

Assembly of Compressor Cylinders

Each cylinder is independent of the other. The pistons or valves can be removed without changing a single pipe connection or affecting the alignment in any way.

This 100 H.P. Direct Driven Compressor is self contained —one foundation, and has no outboard bearing or supports of any kind to get out of line and cause trouble.

It has high speed governor, gear driven, enclosed; renewable Phosphor Bronze Main Bearings, with wedge adjustment, completely enclosed combination splash and force feed lubrication, and automatic air starter.

A special feature has been built into this unit, which permits it to operate on very lean air gas.

It is destined to be the sensation of 1928—write today for literature on this Super Power Unit.

Equipped With MEISTER VALVES

Meister Valves are made of vanadium steel and weigh less than two ounces each. On account of their lightness they are absolutely noiseless and will never require grinding.

Seats are made separate from cylinder and are readily accessible for cleaning or repairing, without removing a single connection. As they are free from troublesome springs, they can be used in any position. Here are some features of Meister Valves.

1—Improved mechanical and volumetric efficiency over the old style poppet valve.
2—Elimination of lubrication of any kind for the valve itself.
3—Silent operation at the highest piston speeds.
4—Valves never require regrinding.
5—Elimination of troublesome springs.
6—Simplification of air end, owing to the absence of all complicated valve operating mechanism.

Write for prices, or inquire of any of our representatives.

ASK FOR CIRCULAR NO. 32

PATTIN PRODUCTS

Gas Engines
Pumping Powers
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Wichita Falls, Tex. J. W. Noland
Putnam, Tex. Putnam Supply Co.
Bradford, Pa. Blaisdell Machinery Co.

MEN KNOWN IN OILDOM

Russell S. McFarland

Russell S. McFarland, who was elected president of the American Association of Petroleum Geologists at the annual convention of that organization in California last week, is one of the best known and progressive oil company executives in the industry. As secretary and head of the land and geological departments of the Twin State Oil Company, Mr. McFarland has been active in the development of the latest scientific practices employed by the petroleum industry. He served as secretary of the American Institute of Mining and Metallurgical Engineers and was vice president of the geologists' association in 1925.

Mr. McFarland was born in Denver, Colo., and attended the University of Missouri from which he was graduated in 1916. He entered the geological department of the Empire Gas & Fuel Company and for three years worked in the different fields of the Rocky Mountain area and northern Texas for that company. During the next year he and Dr. Robert J. Hill were associated in Dallas, Tex., in consulting geological work, being called upon to visit oil fields in different sections of the United States and pass their judgment upon the possibilities for oil and gas development.

Eight years ago, Mr. McFarland became connected with the Twin State Oil Company and has been with that concern since. He established his residence in Tulsa, Okla.

PERSONAL PARAGRAPHS

A. M. Meeks has returned to Coleman, Tex., after a trip to Tulsa, Okla.

* * *

G. S. Henry, of Tulsa, Okla., has returned from a business trip into West Texas.

* * *

E. P. Jones, of Okmulgee, Okla., has returned from a business trip to Fort Worth, Tex.

* * *

R. E. Connell, of The Staytite Company, Houston, Tex., has been in New York on business.

* * *

Fred Mott and Clyde Fowler have returned to Tulsa, Okla., after a business trip to San Angelo, Tex.

* * *

W. R. Finney has been appointed chief engineer of the field division of the Midwest Refining Company.

* * *

Jess A. Barbree, associated with W. M. Ross, has returned to Coleman, Tex., after a short stay in Muskogee, Okla.

J. G. Kilgore, manager of stations for the Panhandle Refining Company, of Wichita Falls, Tex., has returned from Chicago.

* * *

Chester W. Washburne, geologist of New York, returned from Venezuela recently and then departed for Sao Paulo, Brazil.

* * *

H. H. James, of Oil City, Pa., vice president of the Oil Well Supply Company, was in Tulsa, Okla., on a business mission last week.

* * *

R. T. Hazzard, of the Gulf Refining Company, and George R. Stevens, of the Simms Oil Company, of Shreveport, La., are in California.

* * *

Kirby Rowe, E. H. Davis and Wayne Muse, well known in Shreveport, La., oil circles have formed the Kirby-Rowe Drilling Company.

* * *

E. S. Weaver, of the A. M. Weaver Company, of Tulsa, Okla., spent the past week looking over properties and operations in Central West Texas.

* * *

S. H. Keoughan, president of the Continental Oil Company, has returned to Denver, Colo., from California, fully recovered from a recent illness.

* * *

Joseph M. Wilson, geologist for the Simms Oil Company, has returned to San Angelo, Tex., after a three weeks' trip into East Texas and the Gulf Coast.

* * *

B. T. McNeil, vice president of Swiftsure Petroleum Company, at Houston, Tex., has been making a business trip to Tulsa, Okla., and the Mid-Continent Field.

* * *

Thomas A. Dines, chairman of the board of the Midwest Refining Company, has been elected president of the board of trustees of the Denver Art Museum.

* * *

Ralph W. Carroll, known to most of the "oldtimers" in the oil industry, is stopping temporarily in Salt Lake City, Utah, while en route to Los Angeles, Calif.

* * *

Charles Krause, vice president of the Lee C. Moore & Company, Inc., interests of Pittsburgh, Pa., and Tulsa, Okla., is visiting the Rocky Mountain territory.

* * *

John McFadyen, of Casper, Wyo., general manager of the western division of the Ohio Oil Company, is conferring with division employes at Los Angeles, Calif.

* * *

Cecil Yadon, field manager for the Midwest Refining Company at Farmington, N. Mex., has been transferred to another division and H. S. Bossart has taken his place.

* * *

A. G. Nusser, head of the land department of the Standard Oil Company of Louisiana, at Shreveport, is recovering from a recent operation for appendicitis and tonsilitis.

* * *

Burton W. Hink, Standard Oil Company of Indiana, representative of the Tulsa, Okla., office, made a business trip to Fort Worth and Dallas, Tex., during the past week.

* * *

M. R. Walton, Cleveland, Ohio, sales manager of the Widdell Engineering Company and the Arthur G. McKee & Company, was a business visitor in Houston and Beaumont, Tex.

* * *

P. C. Jones, president of the S. M. Jones Company, Toledo, Ohio, manufacturers of sucker rods, was in Tulsa, Okla., and other points in the Mid-Continent territory last week.

* * *

Eugene Holman, head of the land department of the Humble Oil & Refining Company, and Wallace E. Pratt, director of that company in charge of the geological department, are in California.

* * *

Dr. E. F. Davis, head of the Shell Oil Company of California geological department, is making his first visit to the head offices of the Royal Dutch Company, at The Hague. Later he will go to London for a conference over the California company's plans.

J. A. Neath, superintendent of pipe lines for the Humble Pipe Line Company, at Houston, Tex., spent several days at San Antonio, Tex.

* * *

R. E. Wertz, vice president and general manager of operations for Producers & Refiners Corporation, is moving his offices from the Parco, Wyo., headquarters to Independence, Kans.

* * *

H. L. Hileman, assistant sales manager of the Joseph Reid Gas Engine Company, Oil City, Pa., made a trip through the Mid-Continent area last week in the interests of his company.

* * *

M. H. Lary, of the Crystal Carbon Company, who was severely burned in an explosion at the company's plant near Cisco, Utah, recently, has recovered sufficiently to return to his duties.

* * *

R. E. Fancher, superintendent for the Texas Production Company at the Moffat Pool, in Colorado, has been transferred to the Florence district where that company is beginning operations.

* * *

W. M. Clancy, general manager of the Keystone Composition Company, Williamsport, Pa., was in Shreveport, La., in connection with establishing representation of his company in that territory.

* * *

F. T. Parks, who has been with the Doherty organization since 1916, has been appointed manager of the natural gas division of the Public Service Company of Colorado, with headquarters at Denver.

* * *

D. Dale Condit, consulting petroleum geologist, has returned from a business trip which has taken him into remote portions of Rhodesia and other parts of South Africa, and is now located in Washington, D. C.

* * *

George Gammill, formerly of the land department of the Amerada Petroleum Corporation at Shreveport, La., has joined The Texas Company land department and will be assigned to the Gulf Coast division.

* * *

A. D. Aitken, vice president of the Midwest Oil Company, with headquarters at Denver, Colo., and Mrs. Catherine Lonobaugh, of Sheridan, Wyo., were recently married at Denver and are spending their honeymoon in California.

* * *

J. B. Moncrief, assistant to the vice president in charge of production for the Marland Oil Company, has been assigned to Carlsbad, N. Mex., where he will have supervision over the company's operations in Eddy and Lea Counties.

* * *

Frank Hawks, pilot of The Texas Company's trimotor plane, is making flights to the principal cities of Texas, testing The Texas Company products. The plane is on exhibition in each city a few days. He is accompanied on his trips by Mrs. Hawks.

* * *

G. C. Longman, of Chicago, president of the Bayou State Refining Corporation, and vice president of the Bayou State Oil Company, has been in Shreveport, La., for several days in connection with his companies' plans for a new refinery at Hosston, La., construction of which has begun.

* * *

George H. Jones, chairman of the board of the Standard Oil Company of New Jersey, made a trip to Oil City, Pa., recently for the primary purpose of visiting his old friend, Joseph Seep, who has been seriously ill. Mr. Seep, known as the "grand old man of the petroleum industry," and Mr. Jones have been close friends for many years. Mr. Jones spent two days in Oil City.

* * *

J. S. Cullinan, of Houston, Tex., who resigned recently as head of the American Republic Corporation to devote his time and experience to problems affecting the entire petroleum industry, was in Tulsa, Okla., during the past week in connection with efforts being made to evolve a satisfactory plan to bring production down more nearly to market requirements. Mr. Cullinan is one of the real veterans of the petroleum industry. He built the first pipe line and refinery in Texas, his company afterwards becoming the Magnolia Petroleum Company, and he organized The Texas Company.

All Dollars are not equal in value — after they are spent

HUGHES TOOL JOINTS

have proven by greater performance to be the "Economical Joint"

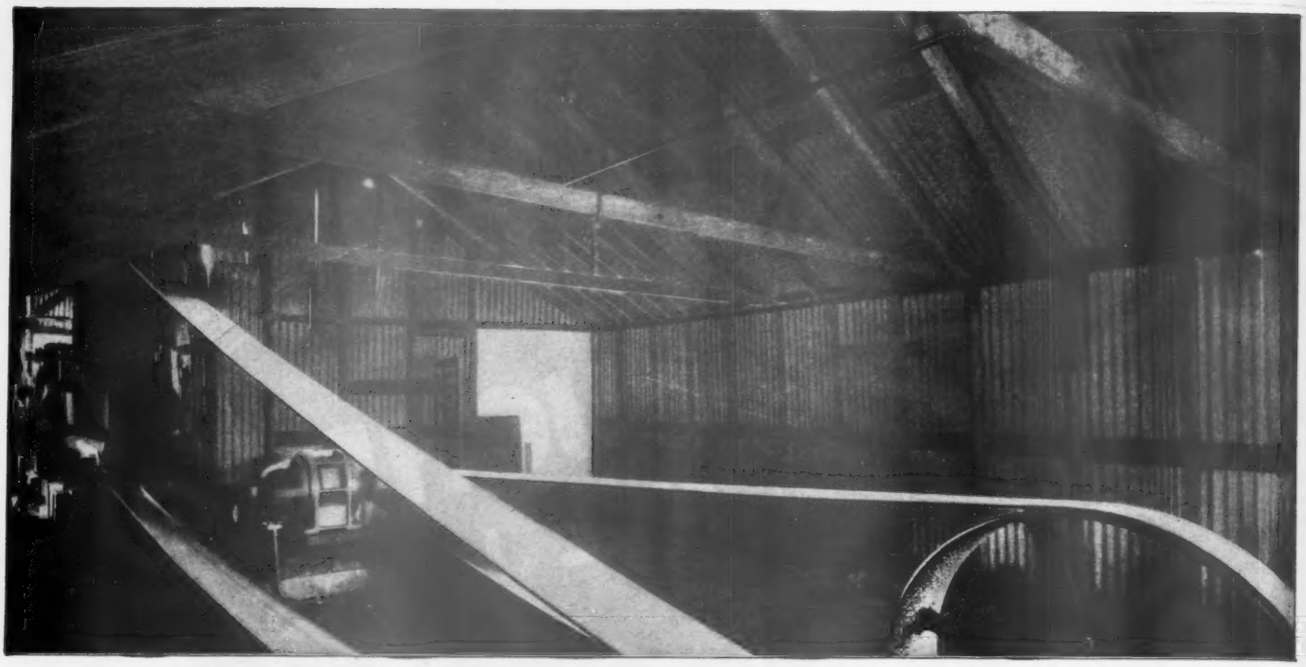
Hughes Tools
Sold By Supply Stores
Everywhere

HUGHES TOOL COMPANY

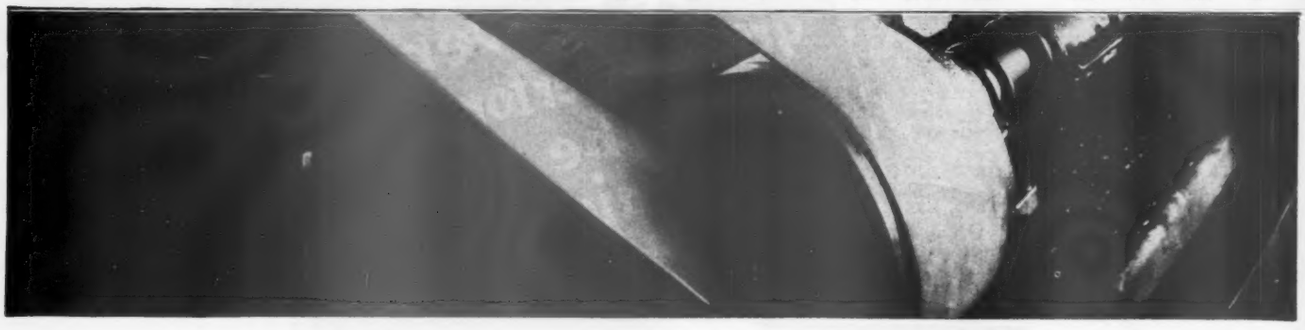
Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.

Main Office and Plant
HOUSTON
TEXAS

Export Office
Woolworth Bldg.
New York City



IT PAYS TO BUY THE BEST



The special service demanded from mechanical rubber goods both in the oil field and in refinery duty is met by the special construction of Goodyear Belts, Hose, Valves and Packing.

In pumping and drilling, for example, ordinary belting quickly succumbs under the repeated and heavy variations in load. The ply construction of Goodyear Belts is designed to stand up under this punishment, insuring long economical wear.

Other severe duty is also imposed on the belt in the field, as every oil man knows. The pulling of casing, tubes and rods, the bailing out of wells, and similar routine or emergency work further calls for a strong, flexible belt, built as Goodyear Belts are built, with a special understanding of oil field needs.

Goodyear Belts and other mechanical rubber goods for the oil industry are all specified to their duty by the G.T.M.—Goodyear Technical Man. The G.T.M. is an expert on belting. He knows the demands of the oil industry. You may rely on any Goodyear Mechanical Rubber Goods that he may recommend to give you more efficient, uninterrupted and trouble-free service.

For detailed information about the work of the G. T. M., the Goodyear Analysis Method and Goodyear products for your industry, write to Goodyear, Akron, Ohio, or Los Angeles, Calif.

TRANSMISSION BELTS — *Thor, Goodyear, Wingfoot* HOSE—*Air, Water, Steam, Gasoline, Fire, Mill* • OIL SUCTION or DISCHARGE HOSE • ROTARY HOSE • PACKING—*Asbestos and Rubber Sheet for both field and refinery service* • PUMP VALVES • SLUSH PUMP SLEEVES • SWAB RUBBERS

The Greatest Name in Rubber

GOODYEAR

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EQUIPMENT AND SUPPLIES

COMPLETE STABILITY CLAIMED FOR WELDER

Points to be considered in selecting an arc-welding set are quality of the welds, welding cost and capital invested, says a bulletin issued by the Fusion Welding Corp., Chicago, describing the Fuzon arc welders. It is pointed out that because arc voltage drops as the current rises, all arcs are unstable. To compensate for this lack of arc stability, a welding generator is required. Instead of "external stabilizers" in the generating outfit, the Fuzon generator has what the manufacturers characterize as "inherent stabilization."

Continuing, the bulletin says:

"Inherent stability, without the use of an external stabilizer, is the result of a very ingenious electrical design in the windings of the generator itself. A novel disposition is made of the commutating pole windings, the turns of the commutating coils being extended to and completely embedded in the adjacent main pole flanges. The commutating winding, thus extended and surrounded by laminations, functions in the two-fold capacity of commutating winding and stabilizing winding. Perfect stability is obtained without adding any windings and at the same time the electrical inertia is eliminated. This means that it is practically impossible to change the length of the Fuzon arc so quickly that it goes out. By adding to the stable arc the possibility of instantly changing its length, a 'flexible arc' results.

"Of equal significance, with the elimination of the external stabilizer, is the elimination of the separate or external exciter from all Fuzon arc welders. Through an ingenious electrical hookup, the excitation required for the generator is taken from the same brushes from which the welding current is drawn. This means that the excitation current really varies with the welding current, and consequently it is substantially equivalent to having an automatic control. By eliminating the exciter and obtaining the excitation current from the main brushes, still more flexibility is added to the Fuzon arc.

"All rheostats, switches and similar auxiliary apparatus have been eliminated from the Fuzon arc welder. The Fuzon arc welder not only can be used for hand or automatically operated metallic arc welding, but also with equal facility for carbon arc welding and cutting."

ENLARGING PLANT

The James McCord Building at Main and Front Streets, Fort Worth, Tex., has been purchased by the Fort Worth Well Machinery & Supply Co. The stocks of the company, consisting of oil, gas, water, steam, mill and machinery supplies, together with the stocks of the Texas Manufacturing Co., which it recently acquired, will be moved to the new location. The growth of the company under the direction of A. H. Herdman, president; H. G. Parr, secretary-general manager; and W. B. Brown, vice president, has made necessary larger quarters. The company recently acquired the plant of the Fort Worth Drilling Tool Co., on South Main Street, though additional buildings will be constructed to take care of the present owners' expansion program.

MICHIGAN REPRESENTATIVE

J. G. (Jack) Fleckenstein has been appointed Michigan representative for the Leader Iron Works, Decatur, Ill., handling the Leader line of bulk plant equipment, rivet-weld tanks, truck tanks, air compressors and steel drain racks.

TRADE LITERATURE RECEIVED

W. H. Nicholson & Co., manufacturers of machinery and steam specialties, Wilkes-Barre, Pa., have just issued a new bulletin, No. 328, covering Nicholson gasoline special traps.

"The Sou'wester," published by the Southwestern Light & Power Co., has views of the new gas generating plant under construction near Chickasha.

"The Caterpillar Magazine," issued by the Caterpillar Tractor Co. of San Leandro, Calif., illustrates the widespread and varied uses of the caterpillar tractor.

"Fusion Facts," published by the Stoody Co. of Whittier, Calif., has an article on the selection of grinding wheels and others on arc welding, and fusion welding of iron castings.

"Designing Concrete for Workability as Well as Strength" is the subject of a circular by Celite Products Co.

The Yellow Strand, published by the Broderick & Bascom Rope Co. of St. Louis, describes large operations in which Yellow Strand Ropes were used.

NEW QUICK-HARDENING CEMENT NOW OFFERED

A new development in concrete construction is described in a bulletin issued by the Ash Grove Lime & Portland Cement Co., of Kansas City, Mo., describing Quikard cement. Concerning this product the manufacturers say:

"Quikard is a specially processed and compounded cement developed by the Ash Grove Laboratories after years of research and experimentation. Highly-refined, super-strong and quick-hardening, it not only fulfills the United States Government and A.S.T.M. standard specifications, but exceeds all strength requirements, for portland cement.

"Concrete, properly made with Quikard, becomes as strong in one day as standard specifications require of portland cement concrete 28 days old—with increased strength thereafter! It is not quick setting, but takes its initial and final set normally. It is exceptionally waterproof, easy to work and finish, and of an attractive, uniform, light steel-gray color."

C. E. STONE MADE PRESIDENT

Charles E. Stone, since 1924 vice president of the Interstate Drop Forge Co., manufacturer of drop forgings, Milwaukee, has been elected president, succeeding C. R. Messinger. Lamar S. Peregoy was elected vice president. C. C. Bremer and J. C. Merker were re-elected treasurer and secretary, respectively.

PUTNAM NOW EXPORT MANAGER FOR W-K-M

Thad L. Putnam, formerly Gulf Coast district representative for the W-K-M Co., Inc., has been appointed export manager for the company, with headquarters in New York, where an office and display room is maintained at 74 Trinity Place.

Opening of an export office was prompted by growing export sales on all

Thad L. Putnam

lines, including oil-field equipment, pipeline equipment and pipe-cleaning machine equipment. One order shipped in March to the Russian Government amounted to more than $75,000, and included 14 W-K-M pipe-cleaning machines, 14 W-K-M pipe-handling booms and 14 W-K-M side winches.

GUN SHOOTS LIQUIDS HUNDREDS OF FEET

The Quigley bitumen gun, manufactured by the Quigley Furnace Specialties Co., New York, sprays or shoots liquids of practically any consistency or temperature, through specially insulated metallic hose, any distance up to several hundred feet from the gun. Volume and pressure are under easy control, assuring penetration and uniform coverage, regardless of atmospheric temperature. The gun is equally adaptable for spraying paint, whitewash, emulsified asphalt or other cold plastic aggregates or liquids. Air is never mixed with the material.

The gun cylinder, from which the material is forced by a piston capable of developing high pressure, is inclosed in a steel housing mounted on wheels.

Heating the gun is accomplished by means of a self-contained kerosene burner.

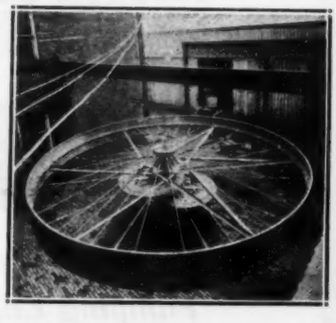
A large-scale thermometer, indicating the temperature of the material to be shot, is conveniently located. This insures constant knowledge of conditions and easy maintenance of proper operating temperature.

USES HYDRAULIC JACKS

William Barsch, shop superintendent for the Wisconsin Motor Manufacturing Co. of Milwaukee, Wis., reports a saving of nearly 50 per cent in production on the job of pressing in bushings with Blackhawk hydraulic jacks. The seven-ton jack was easily installed to act as a horizontal press. The Blackhawk hydraulic jacks operate horizontally, providing pump side is down. The collars are pressed on to the end of drive shafts. To help speed up production, a spring is fastened to the base of the jack and to the side of the ram. When release valve is opened by operator, this spring pulls the head of the jack off the finished job, allowing removal of the piece and placing of a new shaft and collar. By the old method the operator had to exert a heavy pull on an overhead handle to secure enough pressure. These jacks are one of the products of the Blackhawk Manufacturing Co. of Milwaukee.

NEW PUMPING POWER

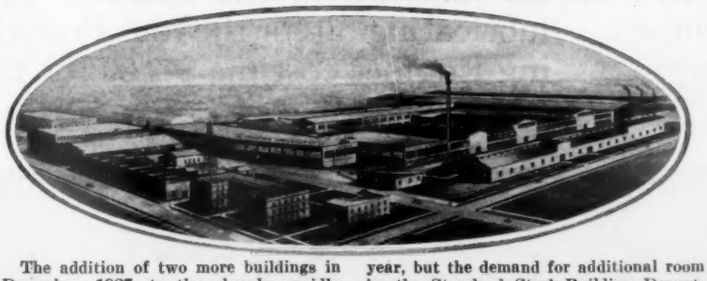
The Joseph Reid Gas Engine Co., of Oil City, Pa., has recently developed a new type of pumping power, known as the Type PX band wheel pumping power. It is designed to meet the demand for a power capable of handling heavy wells where the total power requirements are as high as 100 horsepower. One of these powers was installed a short time ago on the lease of the Group One Oil Corp., Santa Rita, Tex., where it is successfully



handling a load of 100 horsepower for 24 hours a day. It is believed that it is the largest installation of its kind in existence.

The center shaft of the power is 6 inches in diameter, 82¼ inches long, and forms a rigid support about which the wheel and eccentrics revolve. A departure from the former design of Reid powers is found in the introduction of a steel sleeve extending from the base of the power up through the wheel hub. The eccentrics and wheel hub fit directly over the sleeve, all being held together by two 3⅛-inch binding bolts extending from the bottom of the sleeve to the wheel hub. The weight of the rotating parts is carried by two Timken roller bearings. This construction makes a rigid unit and insures perfect alignment between the moving parts at all times.

IDECO CONTINUES EXPANSION PROGRAM



The addition of two more buildings in December, 1927, to the already rapidly expanding home plant of the International Derrick & Equipment Co. at Columbus, Ohio, marks a further step in the growth of this organization.

A new office building, a large machine shop, a warehouse, and a wheel fabrication shop were added during the past year, but the demand for additional room by the Standard Steel Building Department, not only forced the company to build a large wing on the building shop itself but in addition to turn over to this department the buildings formerly occupied by the forge and backsmith shops. For this department a new shop building 90 feet long has just been completed.

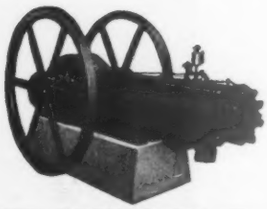
FRANKLIN VALVELES

TWO FRANKLINS

Both Strong

FRANKLIN Gas Drilling Engine

Where gas is available we recommend the Franklin Gas Drilling Engine. It shows extraordinary power, speed and flexibility.



FRANKLIN Gas Pumping Engine

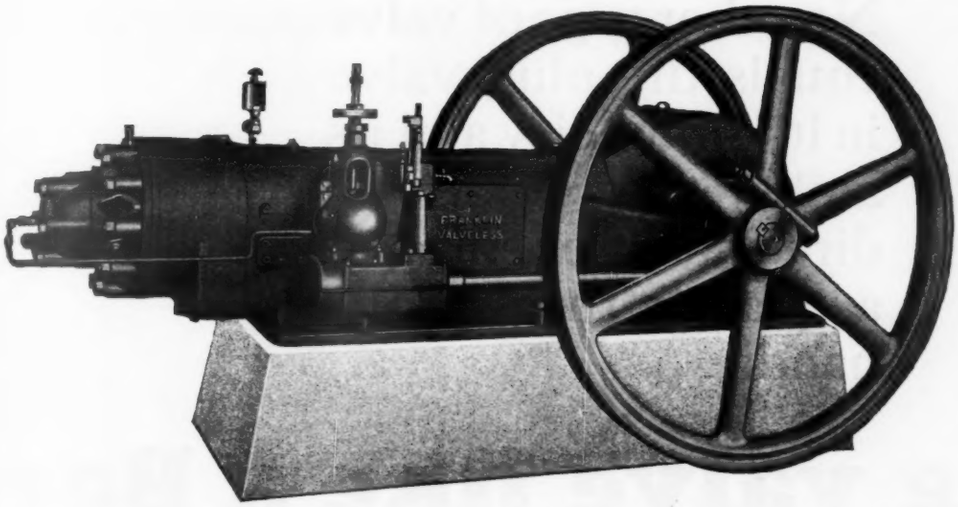
Franklin Gas Pumping Engines are light, economical and powerful. They are interchangeable on same block with gas drilling engine.

Ever since Benjamin Franklin himself was alive the name Franklin has been associated with saving. The great philosopher-statesman in his time preached the value of saving pennies and dollars. A Franklin engine in this day and age practices the saving of money by reducing fuel and repair bills.

First consider the saving of fuel. Scores of drillers tell us that the saving in this item alone would justify the installation of a Franklin. As for lubrication, one operator comments: "My lubricating oil for the four Franklin Gas Pumping Engines cost me $42.00 for the year, which

OIL WELL SU
Branches

OIL AND GAS ENGINES



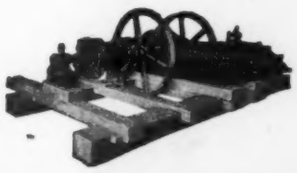
FRANKLIN Oil Pumping Engine

After you have finished drilling move in one of the Franklin Pumping Engines. These pumpers come in 30, 40, 50 and 75 Horse Power.

for Saving

is an average of $10.50 per engine. This seems unbelievable as these engines were pumping 24 hours per day."

But there are other savings not to be overlooked. You save valve grinding, for you must remember the Franklin is *valveless.* You save an appreciable amount for water. And finally, credit yourself with a tidy *repair* saving as hundreds of others have done.



FRANKLIN Oil Drilling Engine

The Franklin Oil Drilling Engine is a single cylinder, three port, two cycle engine. This is Type AO for Mid-Continent or Western Cable Tool Drilling. Price $3,700.00. Sizes for Eastern Service $2,600.00 and $3,350.00. Prices F.O.B. Factory. Complete with self-oiling, reversible drilling clutch, circulating pump and fuel tank.

FRANKLIN VALVELESS ENGINE CO.
Franklin, Pa.

By
PLY COMPANY
Oil Fields

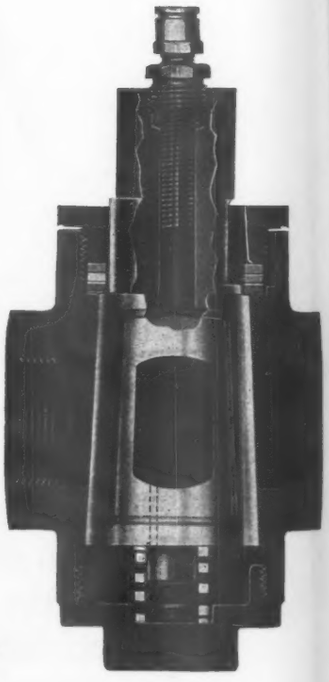
No valve like a plug valve

No other type of valve equals the plug valve in its simplicity and its ability to provide full direct port opening at a quarter turn of the handle.

No plug valve like a Barco

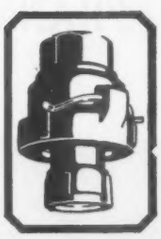
No other plug valve equals the Barco in its system of lubrication and balancing of pressure. This eliminates leakage without sacrificing ease of operation, and produces striking economies. The long life of this valve keeps annual cost low, its maintenance is limited to an occasional shot of lubricant. Since the lubricant is not used hydraulically to unseat the plug, the amount required is kept to a minimum.

Let us send descriptive bulletin covering this superior valve.



Barco Manufacturing Company
1801 Winnemac Avenue
Chicago, Illinois
Vinson-Canter Co., Tulsa, Okla.

BARCO

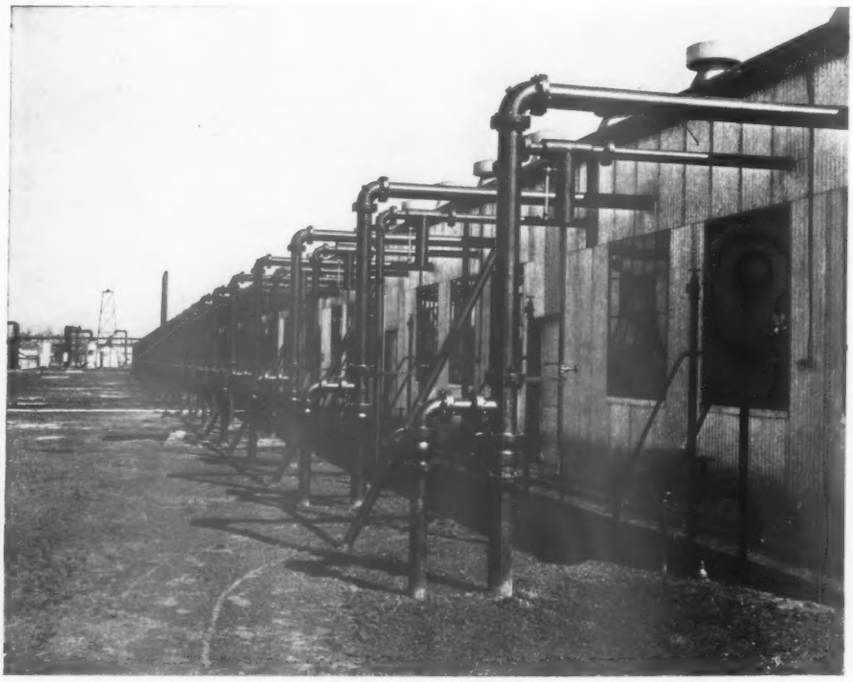


Valves and Joints

O&GJ 3-29-Grey

Manufacturing gasoline at the World's largest Natural Gasoline and Gas Lift plant ~ Sinclair Oil and Gas Company's Lima Gasoline Plant No 13, Bowlegs Pool, Seminole District ~ ~ Seminole County, Oklahoma

150 Pounds Pressure CRANE VALVES 1500 Pounds Pressure



Manifold headers outside of engine room, Sinclair Oil and Gas Company, Plant No. 13, Seminole District. A typical installation standardized by this company.

Crane Co. served the pioneers of the oil industry

In 1855, four years before the Drake well came in, Crane Co. was founded. Since then, growing as the oil and gas industry has grown, Crane Co. has co-operated constantly with the able men who have so patiently and skillfully developed means and methods of adding Nature's "flowing gold" to the world's store of wealth.

Serving well the pioneers, Crane materials have steadily kept abreast of the progressive demands of the industry. And the increasing reliance placed in Crane valves, fittings, and piping materials, has but been an added incentive to enlarge the scope of Crane research and experiment.

New materials have been developed. Design and construction have been improved. Manufacture has been made more certain. Always trustworthy, Crane materials today have an integrity given by 73 years of foundry experience, by laboratory control of raw materials; by systematic research, by scientific study and co-operation with technical men.

CRANE

Address all inquiries to Crane Co., Chicago

GENERAL OFFICES: CRANE BUILDING, 836 S. MICHIGAN AVENUE, CHICAGO

Branches and Sales Offices in One Hundred and Sixty-six Cities

National Exhibit Rooms: Chicago, New York, Atlantic City, San Francisco, and Montreal

Works: Chicago, Bridgeport, Birmingham, Chattanooga, Trenton; Montreal, and St. Johns, Quebec; Ipswich, England

CRANE EXPORT CORPORATION: NEW YORK, SAN FRANCISCO, MEXICO CITY, HAVANA
CRANE LIMITED: CRANE BUILDING, 1170 BEAVER HALL SQUARE, MONTREAL
CRANE-BENNETT, LTD., LONDON
CIE CRANE: PARIS, BRUSSELS

150 Pounds Pressure CRANE VALVES 2500 Pounds Pressure

Meter measuring station at the same Sinclair plant, for measuring incoming gas from the field. Equipped with high pressure gate valves, flanged fittings, and companion flanges.

Crane Co. serves the leaders today

From actual experience with Crane materials, and from their service records, the leaders in the oil and gas industry have learned at first hand of their lasting dependability, low upkeep cost, and real economy. Because of such working contact with Crane quality in their other plants, the Sinclair Oil and Gas Company chose Crane valves, fittings, and piping materials, for their famous Plant No. 13, Bowlegs Pool, Seminole District, reputed the largest of its kind in the world.

The photograph on the opposite page shows the piping as arranged to insure the most flexible and most efficient operation possible. The caption and photograph, on this page, are self-explanatory. The entire installation illustrates, with added force because of its very size, that the largest and most efficient gas plants select Crane materials to reduce hazard, to secure utmost operating results, to keep down upkeep costs, and to insure service that is trustworthy, safe, and long-lasting.

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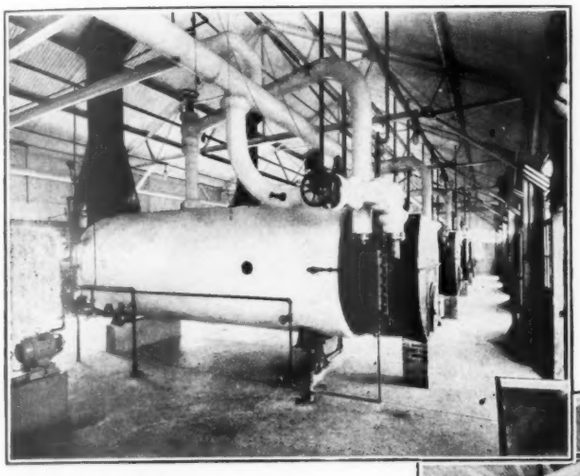
CRANE LIMITED: CRANE BUILDING, 1170 BEAVER HALL SQUARE, MONTREAL
CRANE-BENNETT, LTD., LONDON
CIE CRANE: PARIS, BRUSSELS

EQUIPMENT will be found to *predominate* in all Mid-Continent Fields. In use by Manufacturers of Natural Gasoline from the *smallest* to the *largest.*

TULSA
Boiler & Machinery Co.
TULSA OKLAHOMA

The World's Largest Natural Gasoline Plant Uses Johns-Manville Insulation Throughout

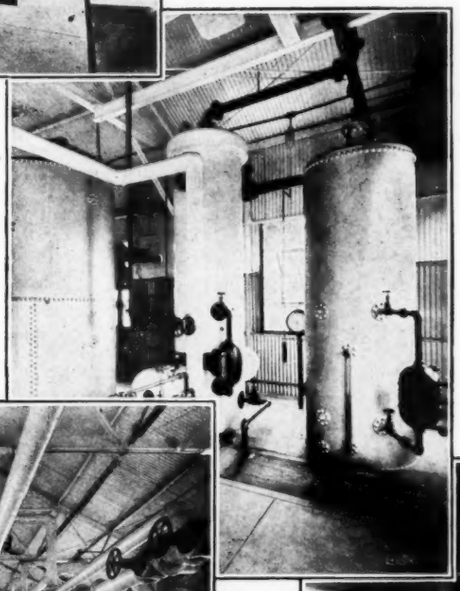


General view of boiler rooms showing Johns-Manville Insulation on boilers and steam lines

IT is a source of great satisfaction to us that when the Sinclair Oil Company planned the world's largest Natural Gasoline and Gas Lift Plant, Johns-Manville Insulation was specified throughout.

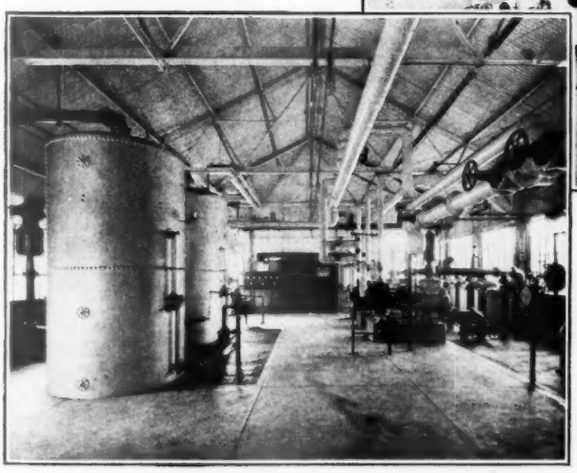
The accompanying pictures show several interesting examples of the use of Johns-Manville pipe and boiler insulations in this great gasoline plant.

Johns-Manville products are in use by the oil industry in all parts of the world

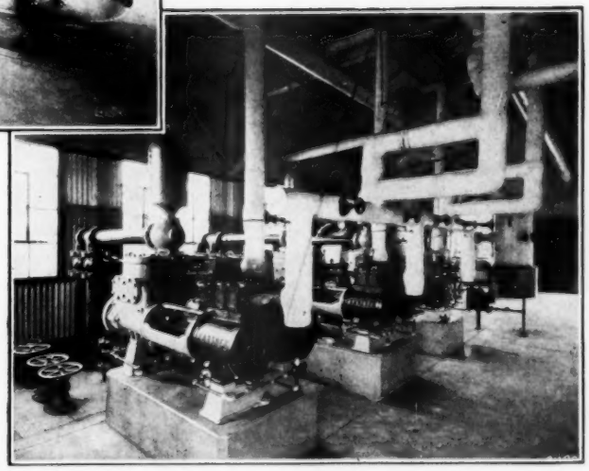


Johns-Manville Insulation on re-run still

General view of control house showing Johns-Manville insulation on steam lines



Johns-Manville Insulation on steam lines to pumps



OIL INDUSTRY DEPARTMENT

JOHNS-MANVILLE CORPORATION

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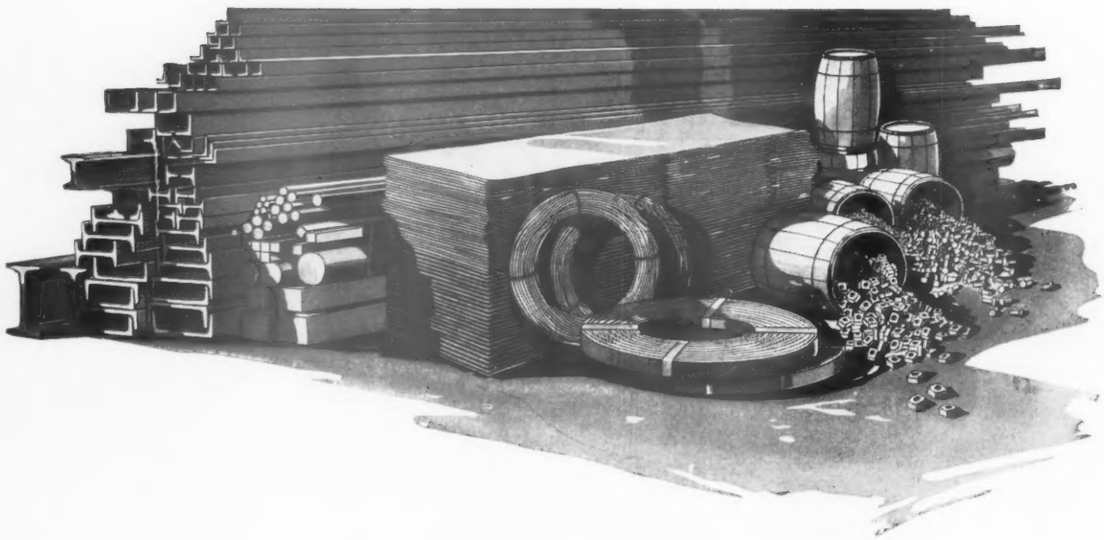

Immediate Steel

The floor plates and some of the other steel used in this new Sinclair Plant were furnished by Ryerson Steel-Service. On new construction, such as this, emergency repair work or general maintenance, you will find Ryerson stocks complete, ready to meet every requirement with immediate shipment.

Eight large plants carry complete stocks, including everything from structurals to rivets, bolts, etc. Each unit is equipped with special cutting and shipping facilities, large fleets of trucks and many unique time saving methods that help get the steel to you in record time.

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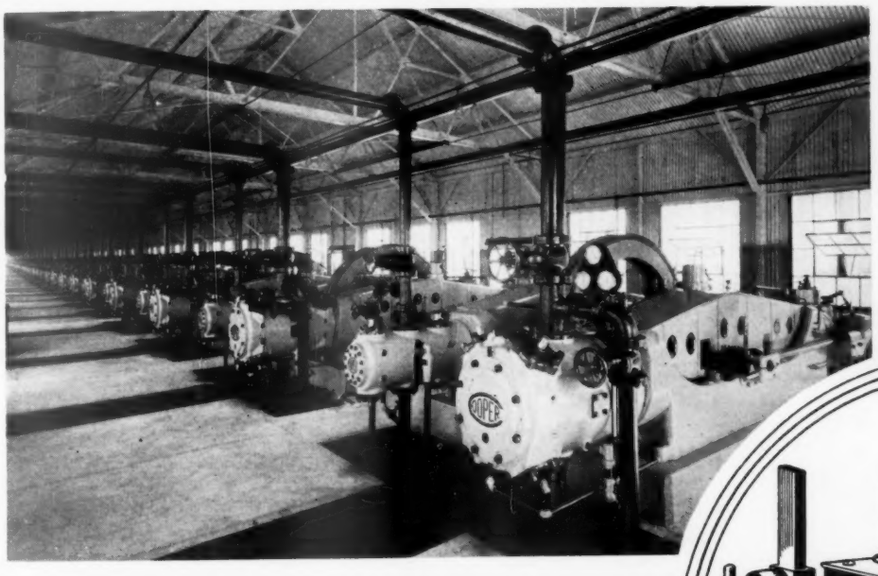

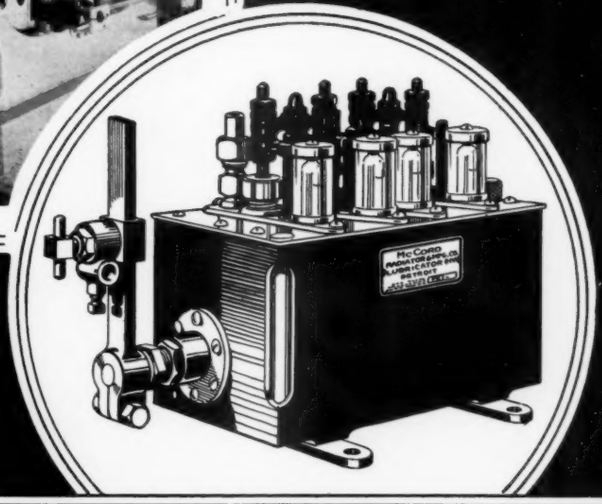

36 Cooper Compressors
[McCORD EQUIPPED]
Sinclair Oil & Gas Plant No. 13

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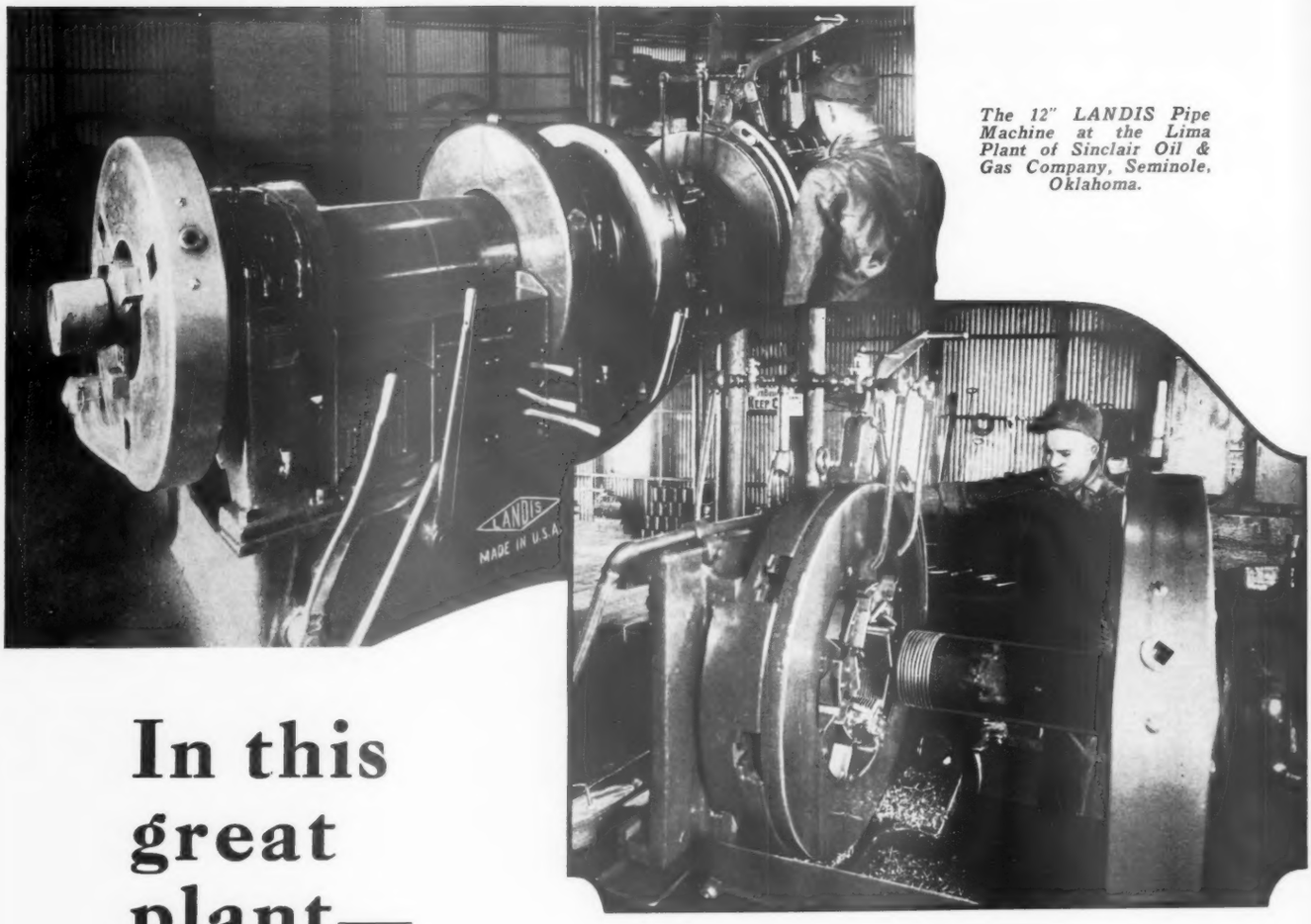

The 12" LANDIS Pipe Machine at the Lima Plant of Sinclair Oil & Gas Company, Seminole, Oklahoma.

In this great plant— LANDIS, of course

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Landis Pipe Machines are designed as a unit to produce threads of good quality, to give maximum production, and to operate with economy. Their distinctive design and sturdy construction make them universally popular throughout the oil industry.

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Gasoline Manufacture and Gas Lift

No. 13 Plant of Sinclair Oil & Gas Co. Is Oil Industry's Outstanding Example of Combination Operation

By C. O. Willson

On June 16 of last year ground was broken for construction work in a new oil producing section known as the Bowlegs Pool of the Seminole area of Oklahoma. The site was in the midst of a "scrub oak" country which previous to the advent of oil was practically valueless.

Field men observing the new activity observed that "Sinclair is building another gasoline plant."

On August 5, the first gas engine and compressor unit was tested out. Eleven days later a number of units began furnishing the pressure necessary for the air lift in the operation of the completed wells adjoining the plant site. On August 31, or 67 days after the construction started, the operation was shifted from air to gas and 20 units began making gasoline and at the same time continued to furnish the pressure necessary to maintain the maximum flow of crude oil at the wells.

The plant's expansion did not stop at that point but continued to grow steadily the remainder of the year. Within seven months after the construction the 20 units had expanded to 36, 8 of which were part of a complete oil absorption division.

In the routine listing of company reports the complete manufacturing and gas lift unit is known as the Sinclair Oil & Gas Co.'s Lima gasoline plant No. 13, Bowlegs Pool, Seminole district of Seminole County, Oklahoma. The exact field location is the SW NE Section 10-8-6.

From the viewpoint of the oil industry it is the world's largest gasoline and gas lift plant. Each 24 hours in excess of 42,000,000 feet of gas from the wells passes through the plant for gasoline extraction. About 18,000,000 feet is returned to the leases at the high pressure required for lifting the oil from the wells. In natural gasoline production the plant is listed at 150,000 gallons daily with a possible peak production in excess of that figure. This one plant is now manufacturing more natural gasoline from gas than did all the gasoline plants operating in United States 14 years ago.

The plant as now operated constitutes a major industrial unit representing an investment of several hundred thousand dollars. Its rapid construction is evidence of the speed necessary in oil field building of which the entire Seminole development has been an outstanding example.

Attractive Features

Although it will be several weeks before the plant celebrates its first birthday this fact is not apparent to the visitor. It is a definite policy of the Sinclair natural gasoline department to build its large central plants with the idea of permanency as well as flexibility in mind. All plants are built to provide for either expansion or contraction made necessary by field developments.

This flexibility in Sinclair operations does not mean that all construction is of the temporary or makeshift type commonly associated with the oil fields. The company expects to operate its No. 13 plant for a number of years. This permanency means that the plant will be the place of employment for a number of employes for an indefinite period and the surrounding section will constitute their home.

To provide the employes with satisfactory working conditions, coupled with attractive home surroundings as previously stated, is a fixed policy of the gasoline department. At the No. 13 plant the results of this policy are very apparent. Permanent homes for married employes and a large dormitory for the unmarried men were completed before the plant started operating.

These accommodations include gas for fuel, running water, electricity in bungalows that are modern in every respect. A concrete sidewalk system connects the 12 houses to the plant.

The natural beauty of the wooded section has been enhanced by landscaping so that the plant site presents an especially attractive appearance. Shrubbery, vines and well-kept lawns present a view comparable to that associated with an attractive suburban addition. The plant site covers an area of 25 acres. To reach this site it was necessary for the company to build 2½ miles of improved road connecting to the No. 12 plant in the Seminole Pool.

New Methods

Of greater importance than its position of supremacy in the natural gasoline industry, the speed of construction and its attractiveness as an industrial unit, the No. 13 plant of the Sinclair Oil & Gas Co. is of interest because it is an outstanding example of a change in manufacturing methods brought about by a new method of producing crude oil. Probably every reader is familiar with the development of the air and gas lift as a means of flowing oil wells.

This new method has received its first major application during the past year in the production of crude oil in all the pools constituting the Greater Seminole area. This area up to the present time has produced approximately 175,000,000 bbls. of high gravity crude oil. It is estimated that the air and gas lift accounts for at least 75,000,000 bbls. of this tremendous crude oil production.

No attempt will be made here to describe the methods used in lifting the crude oil in the wells by air and gas. Many production departments have centered their engineering work in a study of the problems which have developed as a result of this new scheme of securing oil in a given area in the quickest possible time and at the lowest per barrel lifting cost. The method in brief consists in returning gas or air to the producing sand at a pressure sufficient to lift the oil to the surface.

When it is remembered that this method of producing oil has accounted for 40 to 45 per cent of the total crude oil production in the Greater Seminole area with a value at the wells in excess of $100,000,000, it is obvious that a development of real industrial significance has been perfected. It has changed the position of the natural gasoline manufacturer in that his plant in a very direct sense has become an essential part of the machinery of production.

Factors in Production

Formerly the natural gas manufacturer's duties in the oil fields were completed when he took the casinghead gas from the producer and after extracting the gasoline from the gas returned sufficient dry gas to the lease for use as fuel in development work. In the Seminole Field, however, these old duties continue but in most cases this phase of his activities is overshadowed in importance by the requisite that he aid the production department in securing the maximum flow of crude from the wells.

With the gas lift in operation the equipment of the gasoline manufacturer furnishing gas at the desired pressure becomes the "pump" of the crude oil department. Just as soon as the natural flow of a new well stops or falls below a certain point, the gas lift is inaugurated. The necessary gas must be available at that time and in most cases it devolves upon the gasoline department to furnish it.

In the early days of Seminole development no attempt was made to extract the gasoline from the wet gas as it came from the wells. The gas was needed for the continuous operation of the wells and nothing was allowed to interfere with this program. Gradually the gasoline manufacturer has been able to devise means by which he has become a part of this cycle and by extracting the gasoline from the gas has facilitated the work of the production department and at the same time has added materially to the profits of the combined operations.

Scope of Changes

Speaking recently relative to the new position of the natural manufacturer, H. B. Bernard, vice president of the Sinclair Oil & Gas Co. in charge of the natural gasoline department, said:

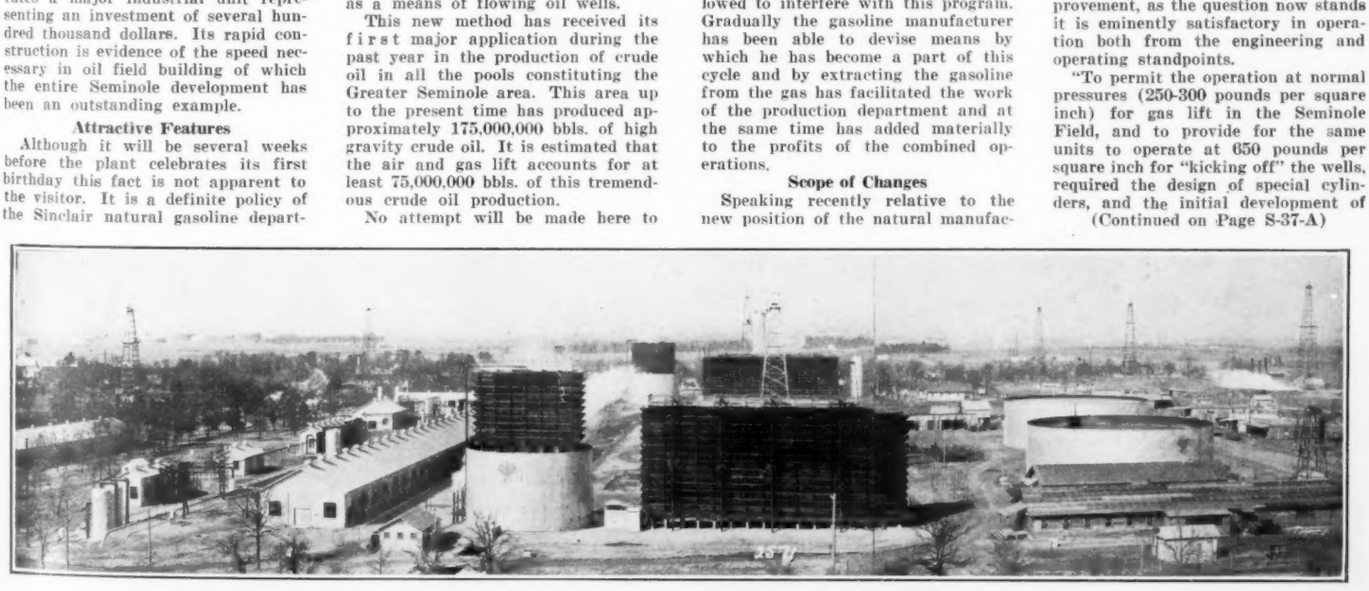
"Early in the history of the Seminole Field the first gasoline plants in that area were conceived (about August-September, 1926). These plants were universally of the absorption type, and made no provision for the production of high-pressure gas for flowing purposes. About 60 days later when several high-pressure compression plants using both air and gas were put in service, it was found that where gas was the medium compressed, gasoline was extracted, but as no final coolers were installed on the second stage, the gasoline production was very small. A short time later it became a more or less general practice to install an absorption-type unit on the discharge of the low-stage compressors to extract the gasoline, and this method is in more or less universal use in those plants constructed late in 1926 and early in 1927.

"Considering that the condensing and cooling of a given amount of gasoline over a definite temperature range requires a given amount of condenser surface and with the view of eliminating absorbers, stills, and the numerous auxiliaries used in connection therewith, the Sinclair Oil & Gas Co. in March, 1927, put in operation a gasoline plant, designed not only to efficiently extract gasoline under compression methods but to furnish high-pressure gas for producing crude petroleum by the gas lift. Shortly thereafter this plant was put in successful operation, and it has set a model type of construction and operation which will replace the high-compression type of plant utilizing absorption equipment for gasoline extraction.

"One of the principal problems presented in the construction of the two-purpose compression plant was the design of a system of controls to enable the operation of each individual well under the most favorable conditions and to permit the "kicking off" of any well or wells without interference with other operations. This system was fully developed in July of 1927, and while it is undoubtedly capable of improvement, as the question now stands it is eminently satisfactory in operation both from the engineering and operating standpoints.

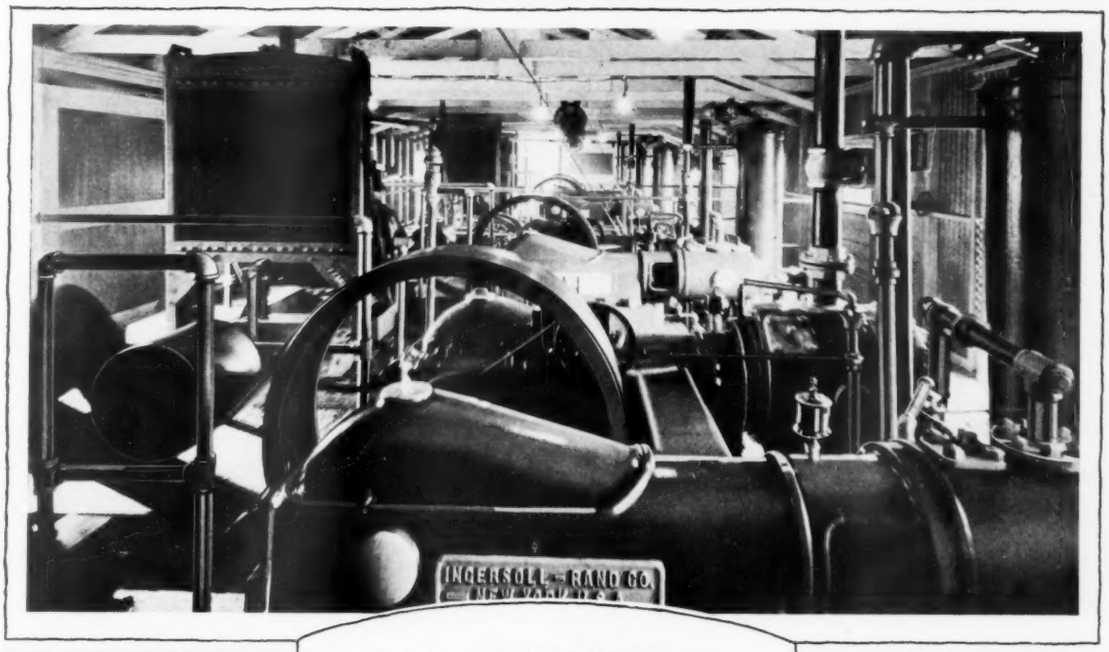
"To permit the operation at normal pressures (250-300 pounds per square inch) for gas lift in the Seminole Field, and to provide for the same units to operate at 650 pounds per square inch for "kicking off" the wells, required the design of special cylinders, and the initial development of

(Continued on Page S-37-A)

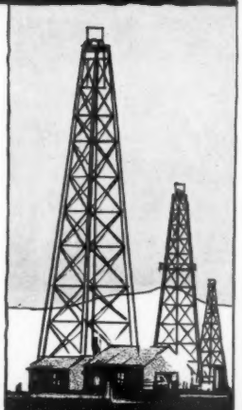


General view of the No. 13 gasoline plant of the Sinclair Oil and Gas Co.

MECHANICAL ENGINEER
S.R. Evans
V.H. Jones
SUPT. OF PLANT 13
C.D. O'Donnell
CHIEF ENGINEER PLANT 13
EXPERIMENTAL CHEMIST
J.L. Gallagher
C.L. Brown
GENERAL SUPERINTENDENT
W.W. Baker
GENL. SUPT. OF CONSTRUCTION
H.B. Bernard
V. President
H.M. Coulson
ASS'T. GEN'L. SUPT.
E.A. Wooden
CHIEF ENGINEER
John Rowland
RESIDENT CONST. ENGINEER
Burford Murry
CONST. FOREMAN
Vincent Glick
PIPE LINE FOREMAN
John Dixon
PIPE LINE FOREMAN



A Sinclair installation of XOB Compressors in the Seminole field.



R-1614.

The XOB Compressor

Not only in Seminole, but in several other fields too, XOB compressors predominate for flowing wells by gas lift and air lift.

The XOB leads because it gives satisfaction. It gives satisfaction because it is designed and built especially for the particular work it is doing.

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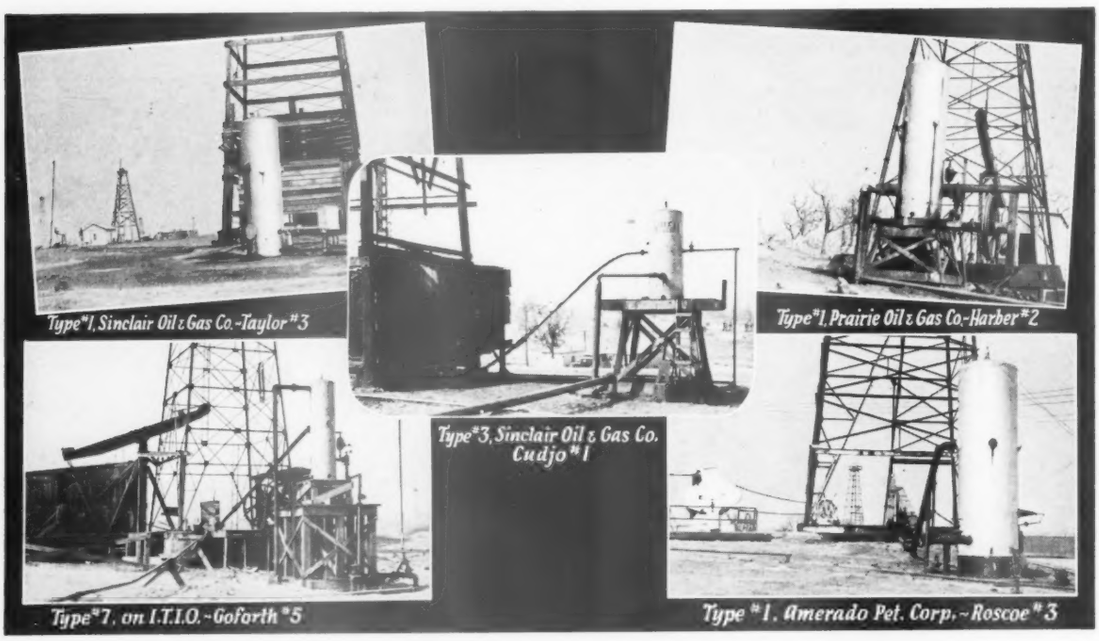
Type #1, Sinclair Oil & Gas Co.-Taylor #3
Type #1, Prairie Oil & Gas Co.-Harber #2
Type #3, Sinclair Oil & Gas Co. Cudjo #1
Type #7, on I.T.I.O.-Goforth #5
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Above we show a few Smith Separator-equipped wells of the leading producing companies in the Seminole field which are supplying gas for the world's largest gasoline plant—Sinclair Oil & Gas Company's Lima No. 13.

In addition to commercializing every foot of gas in the crude as it comes from the wells, Smith Separators also make possible an *additional* earning to the operator by reason of their ability to deliver *casinghead gravity* crude to the stock tanks, the entire production from well to tank being handled in a closed system, maintaining the original gravity. The advantages in fire protection and safety to employees from this method are obvious. For these reasons, and due to the fact that maintenance costs are negligible, most of the successful producers in every field have standardized on Smith Separators.

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LOUISIANA OFFICE:
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Shreveport, La.

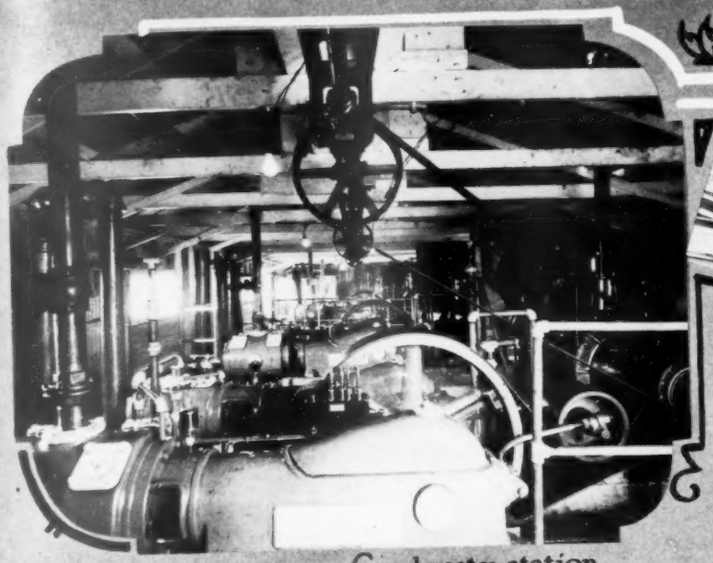
LONDON OFFICE:
Perkins MacIntosh
Petroleum Tool & Boring Co. Ltd.
25 Bishopsgate
Cable Address:
"Oleborers," London

SMITH SEPARATOR COMPANY

Tulsa *Okla.*

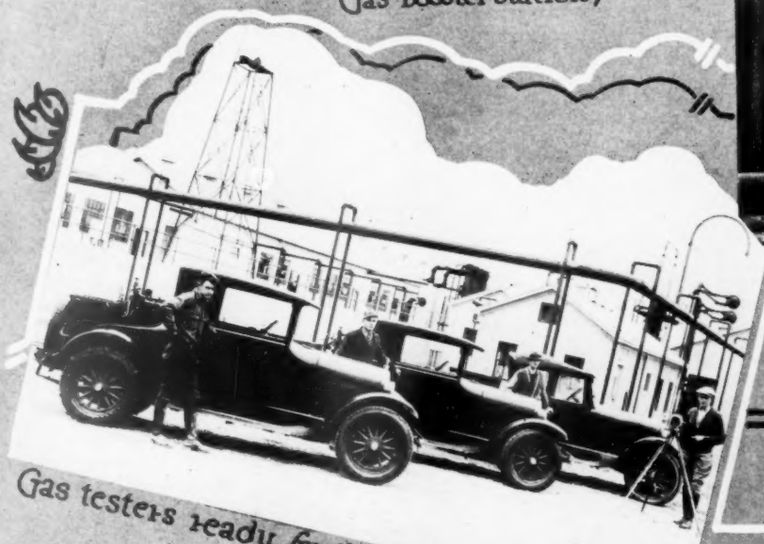
TEXAS OFFICES:
924 Post Dispatch Bldg.,
Houston, Texas

1402 Fort Worth National Bank Bldg.
Fort Worth, Texas



Gas booster station,

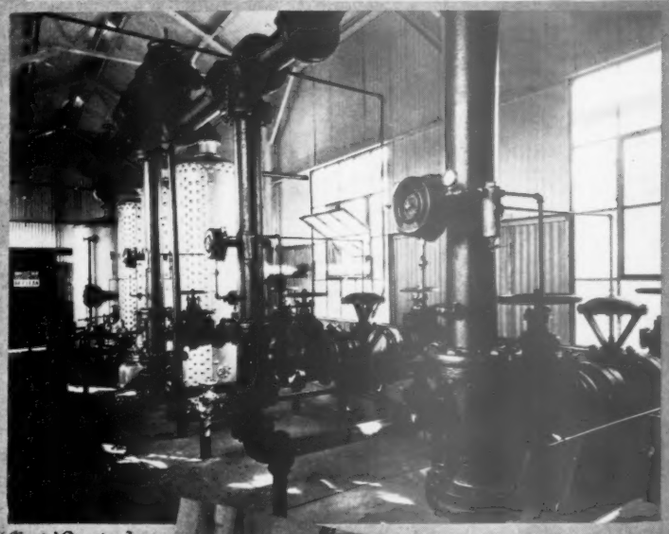
1 and 2 - - - The Gas lift in operation at the well,



Gas testers ready for the field

Control room for gas lift in the field,

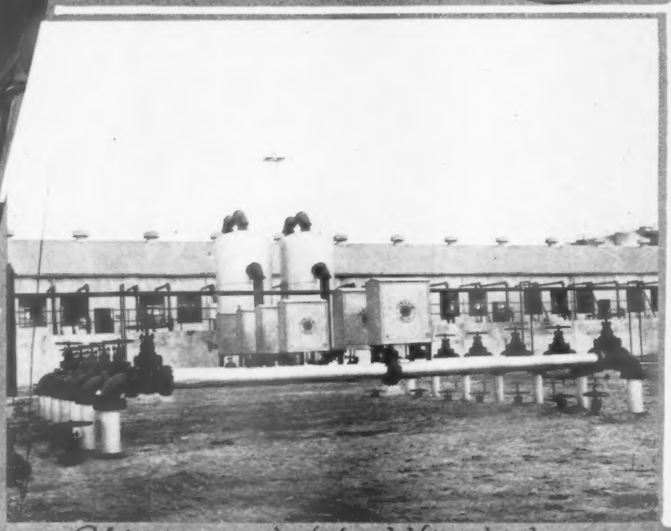
Gas en route from the field to the plant,



(Above) Control house for compressor units showing control instruments and accumulator tanks.

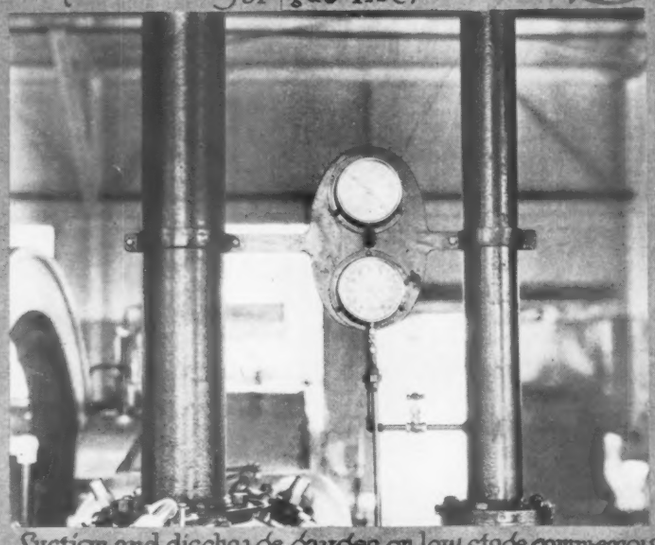
High and low stage coolers.

High pressure accumulator tanks

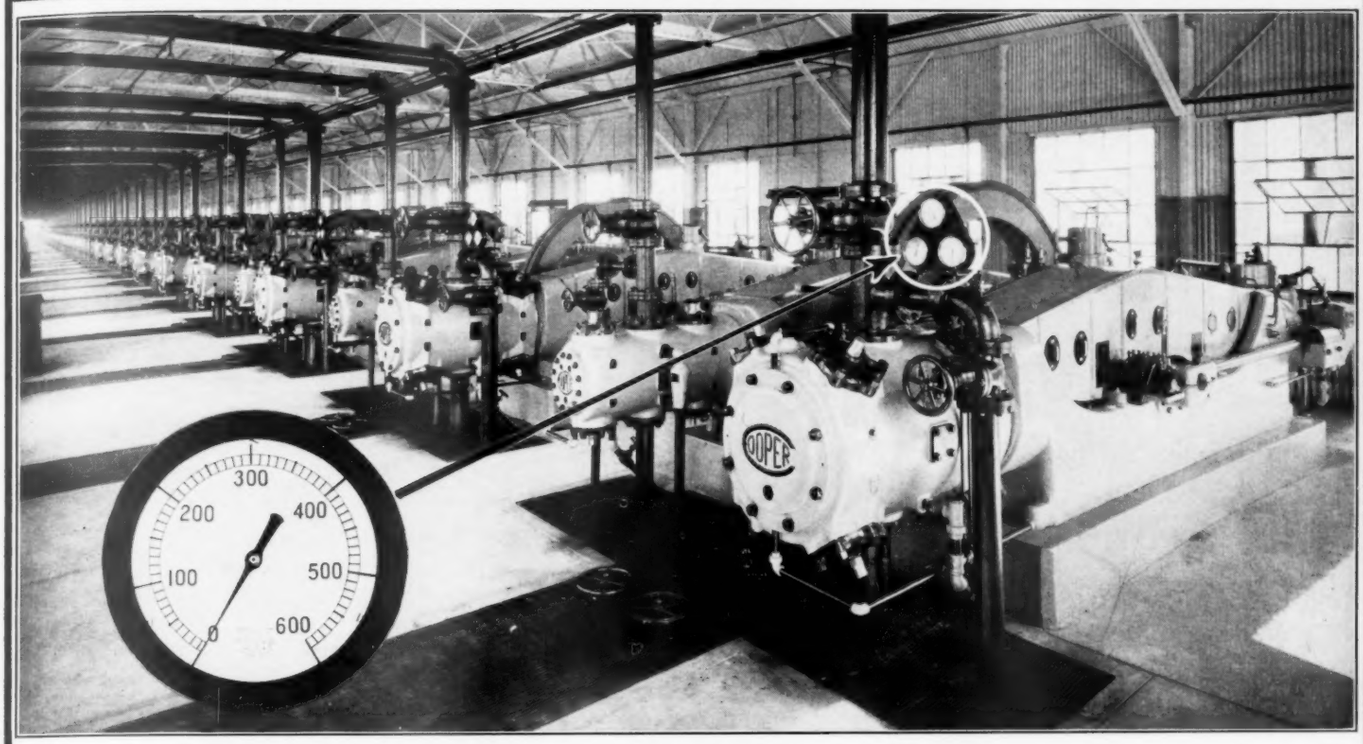


Meters measuring gas delivered to lease for gas lift.

Master meter of gas lift system.



Suction and discharge gauges on low stage compressors



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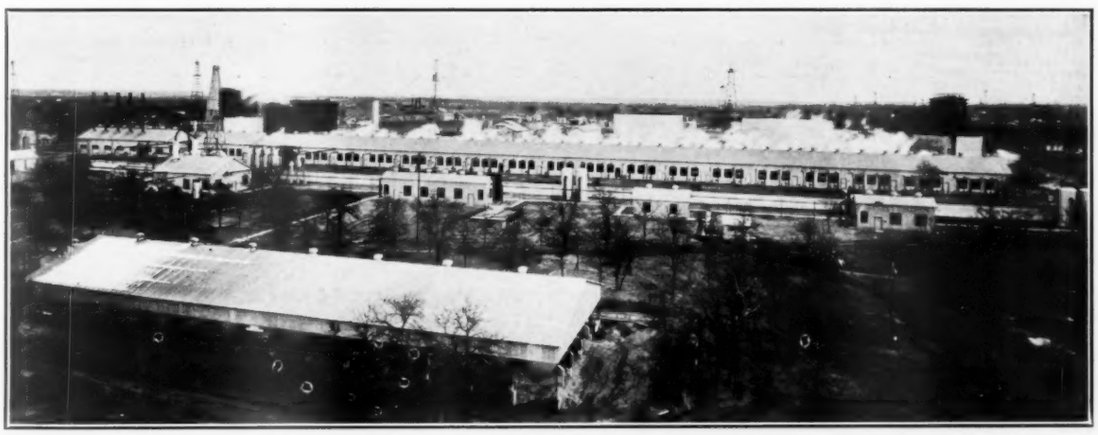

SINCLAIR OIL AND GAS COMPANY—PLANT NO. 13

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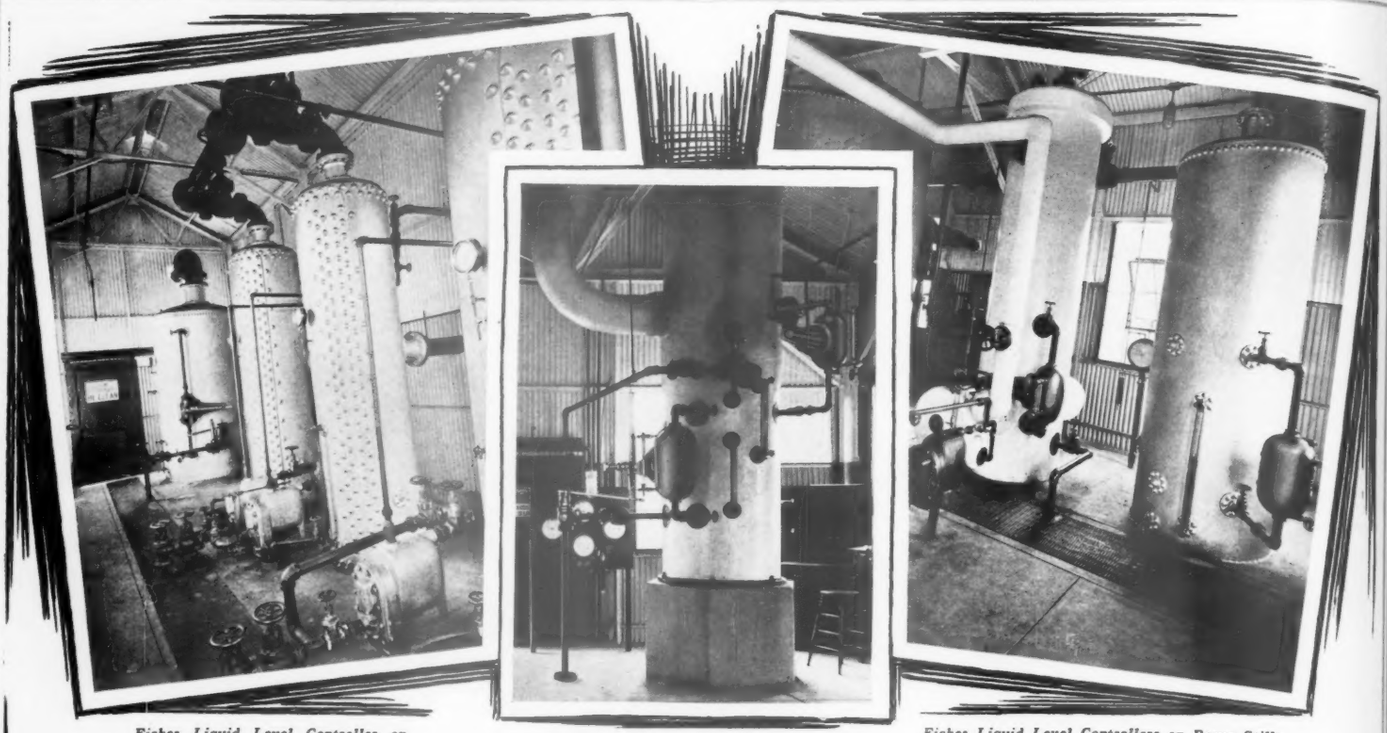

Fisher Liquid Level Controller on Accumulating Tanks.

Fisher Liquid Level Controllers on Stills.

Fisher Liquid Level Controllers on Rerun Stills.

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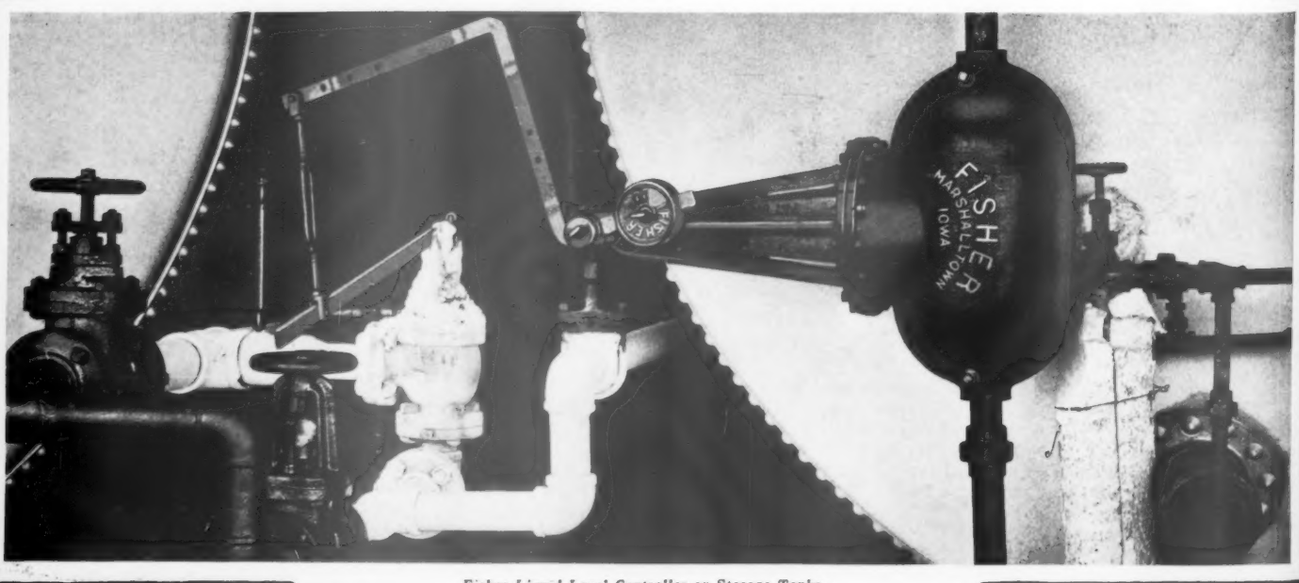


Fisher Liquid Level Controller on Storage Tanks.

Make Gasoline in Gas Lift Operation

Compression Division of Sinclair Plant Extracts Finished Gasoline From High Pressure Gas Used in Flowing Wells

There are three distinct units in the compression division of the No. 13 plant of the Sinclair Oil & Gas Co. These units are practically identical in their operation and as now operated may be considered as one unit.

The three units were installed in order to obtain the flexibility necessary for the economical construction and operation of the plant. When the plant first started operating, only one unit was completed. As additional gas supplies became available, a second complete unit was added and finally a third unit. This plan of construction will prove to be equally advantageous should later developments bring about a condition in which one or more of the units are not needed. The plant capacity can be contracted in the same manner that it was expanded without interfering in any way with the continuous operation.

The description of the cycle of operation for the compression plant properly starts with the gathering system in the field. At this point the Sinclair operation does not differ materially from that of any other gathering system. The gas coming from pumping wells and those flowing naturally or through the application of the gas lift is metered at the leases and is then brought from the fields to the plants in five main lines.

At the plant the gas first passes to three batteries of two 8-inch by 16-inch scrubbers each connected in parallel. These scrubbers remove the oil, sand, water and other foreign matter from the gas, which then passes to a 20-inch line from which all the compressors take suction. Atmospheric pressure is maintained on this 20-inch header by means of an automatic device which opens a valve in case of excess pressure. This control is exceedingly important as there is considerable variation in the quantity of gas from the field due to the gas-lift operation at the wells.

The quantity of gas necessary to flow the wells varies from day to day and this is directly reflected in the gas available at the plant. Were it not for the pressure control in the suction header line this would mean frequent overloads for the engines which would destroy the uniformity of the entire operation.

Engine Room

The description now takes the visitor to the inside of the engine and compressor room. This is probably the most impressive view that the natural gasoline industry has ever furnished. To be fully appreciated it must be seen. The sight of 36 engines and compressors in perfect alignment extending the length of a building which is 592 feet long leaves a lasting impression as to the enormous growth of the natural gasoline industry and its present position in the field of engineering.

Twenty-eight of the 36 units are used in the compression operation of the plant. The twin engines are of the 16 by 8 by 20, 170-horsepower, 4-cycle type. The remaining eight units are used in the oil absorption operation which will be described later. The compression units were installed in five batteries, four of which have six units each and the fifth battery four units. Each battery has a separate discharge line. This is another phase of the unit installation of importance both in the construction and operation of the plant.

The engine and compressor room can be described as spotlessly clean. The interior from the floor to the ceiling is painted and it is part of the duties of the engineers in charge to see that no dirt or oil is permitted to accumulate. The engines have the latest type automatic oilers. Oil is available at numerous spigots in the room. These spigots are fed from a central storage tank at which a constant pressure is maintained.

Instrument Board

At one end of the room is located an instrument board from which the engineer in charge can at all times determine the exact status of the plant operation with which he is particularly concerned. This board includes the following: (1) Time clock; (2) suction and discharge pressure of absorption division; (3) suction and intermediate pressure of compressor divisions; (4) high stage discharge of compressure division; (5) air pressure; (6) gas pressures at absorbers and residue gas pressure; (7) height of water in storage tank which furnishes gravity feed for engine cooling; (8, 9 and 10) discharge pressures on main engine water and condenser water pumps.

The gas from the low-stage compressors in the compression operation first passes to a knockout or scrubber tank, where the oil and some condensate is removed. It then goes to three coolers connected in parallel. These coolers are of the shell and tube type. The coolers connect directly to the low-stage accumulator tanks where all condensate is removed.

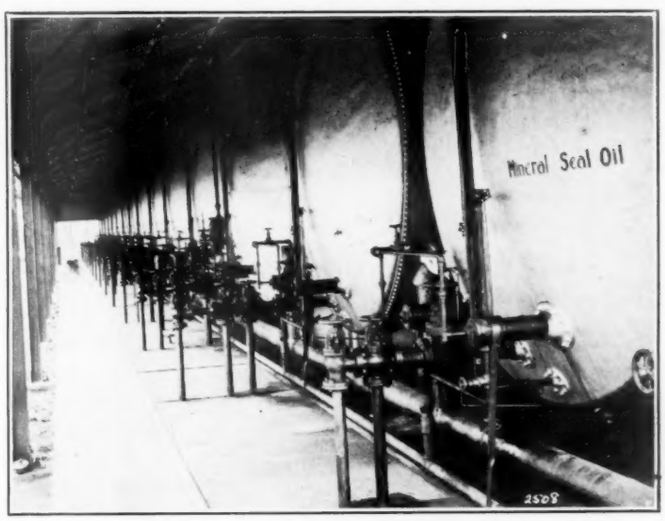
The gas is now ready for the high-stage suction line which extends the length of the compressor and engine building and from which all units in the compressor operation take suction. In the low-stage operation the gas is brought to a pressure of 50 pounds and this is boosted to 250 pounds in the high stage. In the high stage the gas is subjected to practically the same operation as in the low stage. The gas is cooled and the gasoline condensed out, the condensate going to the accumulator tanks. Through automatic level controls this gasoline in the accumulator tanks is trapped out to the plant storage tanks.

Pressure Regulators

An important feature of this phase of the operation is the automatic back pressure regulator. This type regulator is found at several points in the plant operation. The instrument maintains a uniform pressure at the compressor plant discharge. At present this pressure is 250 pounds. This uniformity is important not only in the efficient operation of the compressor plant but also in the gas lift at the wells.

The gas from the high-pressure accumulator tanks passes to one line with a master meter. The gas is then divided among the several leases for the gas-lift operation. The gas returned to each lease is metered. At the lease the gas is apportioned on a basis of the requirements of each well. When this gas has lifted the oil in the wells and is again available in the gathering system the cycle of the compression plant and gas lift operation has been completed.

As the operation has been perfected the compression operation at the plant involving the extraction of the gasoline from the gas and maintaining the latter at the desired pressure for gas lift at the wells, is automatically controlled. The duties of the operators are largely confined to checking these controls to assure that they are functioning properly.



Stock tanks at No. 13 plant.

The main control of this operation centers in a building housing the accumulator tanks and the gas and liquid controls. As previously explained there are three distinct units in this compression operation. One building houses the accumulator tanks and controls for two of these units, while a second building is provided for the remaining unit. Three high-pressure accumulator tanks are necessary for each low-stage accumulator tank. All gasoline made in the intermediate and high stage is trapped directly to the stock tanks. The remainder is rerun. These accumulator tanks and traps are in parallel so that any of the equipment can be taken out of service without interfering with the operation.

The amount of gas handled in the compression gas-lift operation at the present time varies considerably from day to day. It will probably average 25,000,000 cubic feet from which an average of from 2 to 2.5 gallons of gasoline per thousand cubic feet is obtained. At present only leases owned by the Sinclair Oil & Gas Co. are furnished gas at the pressure needed for repressuring. In this intercompany transaction, the gasoline department charges the production department a fixed rate for the high-pressure residue gas and the production department in turn charges the gasoline department for the wet gas delivered to it after the gas-lift operation is completed.

Stock Tanks

The plant's gasoline storage requirements are taken care of by fourteen 10 by 40-foot stock tanks. Each has a capacity of approximately 24,000 gallons. A 10 by 18-foot tank provides storage for the absorption oil and a same size tank is used for lubricating oil. A pressure is maintained on the lubricating oil tank sufficient to furnish a pressure feed system throughout the plant. This oil, which is purchased from the Sinclair Refining Co., is unloaded in tank car lots. All tanks are equipped with gauge glasses so that the liquid levels can at all times be determined.

These storage tanks are housed in a steel structural building with open sides and ventilators. All the buildings at the Sinclair plant are of the steel structural design. The advantages of this type building in natural gasoline plant construction are too well known to require explanation here.

The main feature of this type building stressed by the gasoline manufacturers is its flexibility and portability. The material is obtainable in sections of several sizes. At the Sinclair plant as additional housing facilities were needed to provide for the plant growth, sections or bays were added to the buildings already built and in use. Should the plant be made smaller later on the buildings can be reduced in size by removing the sections which are not needed.

The buildings can be quickly built or torn down and when knocked down can be readily transported from one building site to another. They also satisfy the fireproof requirement.

The treating and loading for all the natural gasoline plant operations of the Sinclair Oil & Gas Co. in the Seminole district is done at the No. 12 Seminole plant. The gasoline from the No. 13 plant is pumped about 3 miles to this central plant. A central laboratory also is maintained at the No. 12 plant. This laboratory has all the equipment necessary for testing the finished products.

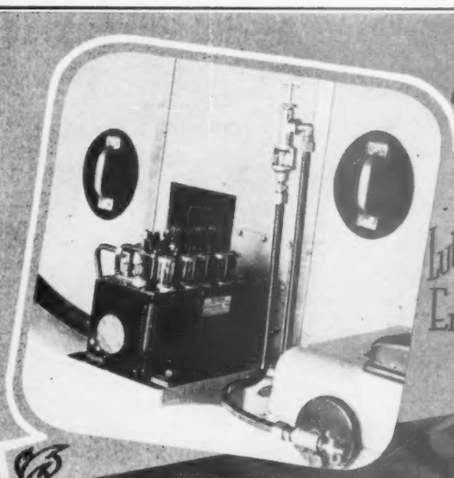
A trainload of the natural gasoline daily leaves the consolidated loading rack of the Sinclair's gasoline plants. The 36-car loading rack is especially equipped for the loading of natural gasoline. All loading is done with vapor tight dome covers. As the car is loaded the vapors are removed and returned to the No. 12 plant for gasoline extraction.

Two weather proof and steam heated "dog" houses are provided for employes at the rack. The rack is equipped for unloading absorption oil and lubricating oils. Steam lines are provided for fire protection with several chemical fire extinguishers.

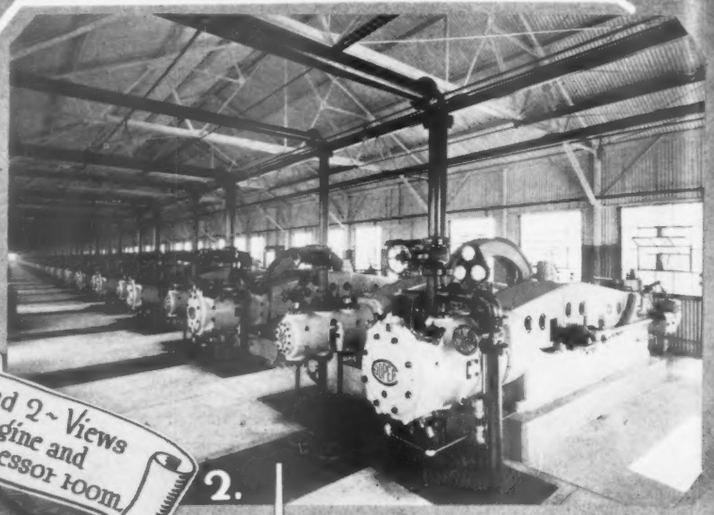
Cooling Towers

The water cooling for the plant is handled by four cooling towers. Two of these are mounted on 25 by 25-foot tanks which furnish a gravity feed for engine compressor cooling. These two towers have a combined ca-

(Continued on Page S-37-A)



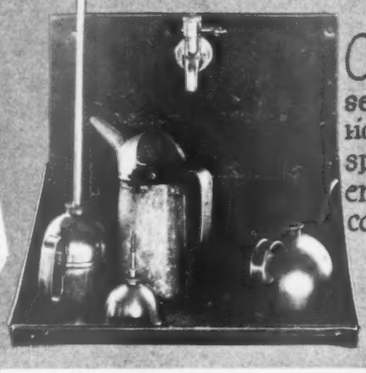
Lubricator for Engine



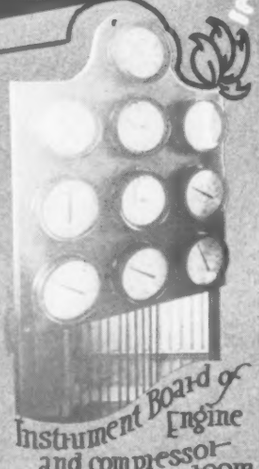
1 and 2 ~ Views of Engine and Compressor room.

2.

1.

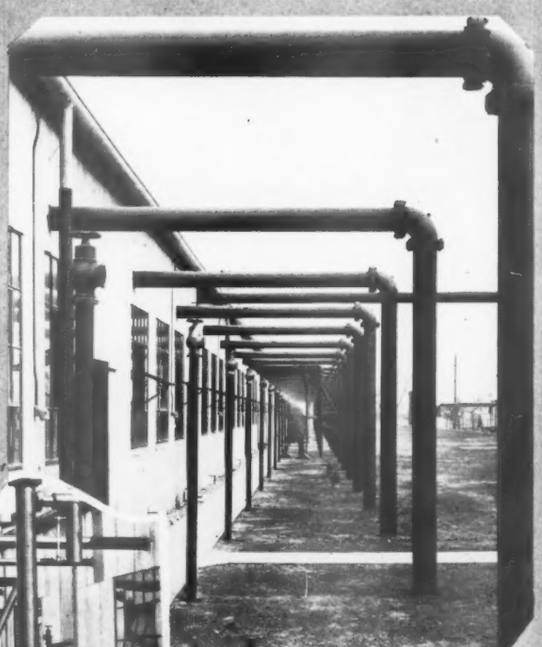


One of the several lubricating oil spigots in engine and compressor room.



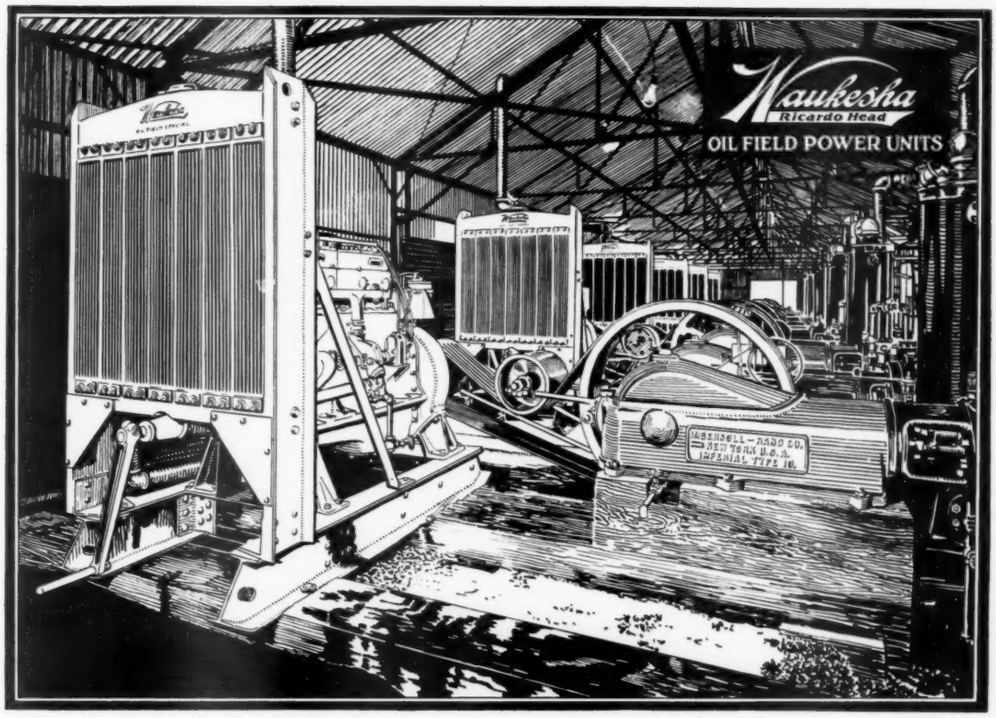
Instrument Board of Engine and compressor room.

Engine fuel gas regulators and air intakes



(Above) Exterior view showing suction lines of absorption division.

Exterior view showing suction lines for high and low stage compressors ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~



P-826-XL

Waukesha - Powered Gas Lift at Sinclair Plant No. 13

Waukesha Keeps 'Em Busy

The crude for the world's largest natural gasoline plant just completed by the Sinclair Oil and Gas Co., at Seminole, is raised by Waukesha Power operating the gas lift plant shown above. This power was chosen because their past experience with similar equipment has proved its reliability, low first cost, and low maintenance.

Waukesha Oil Field Power Units are used throughout the petroleum producing industry for driving drilling rigs, both cable and rotary types, for driving oil, water and mud pumps, and draw works. The Stationary Power Units, built without an enclosure, are standard equipment for air lift plants and electric generating purposes. Waukesha units are built in sizes from 50 to 125 H. P. Write for "Gas Lift" Bulletin Number 616.

P-827-XL

OIL INDUSTRY EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

Waukesha, Wisconsin

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Tulsa — C. F. Camp Co.
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Vapor Proof Lighting Units Throughout

Manufactured by

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Lighting and Auxiliary Power Produced From Crocker-Wheeler Elec. Mfg. Co. Motors and Generators

Hundreds of "Kondu" Threadless Conduit Fittings were used in the Electrical Work in this plant, saving Time and Money

ELECTRICAL SPECIALTIES, Inc.

ENGINEERS -:- -:- JOBBERS

Distributors for the Oil Fields

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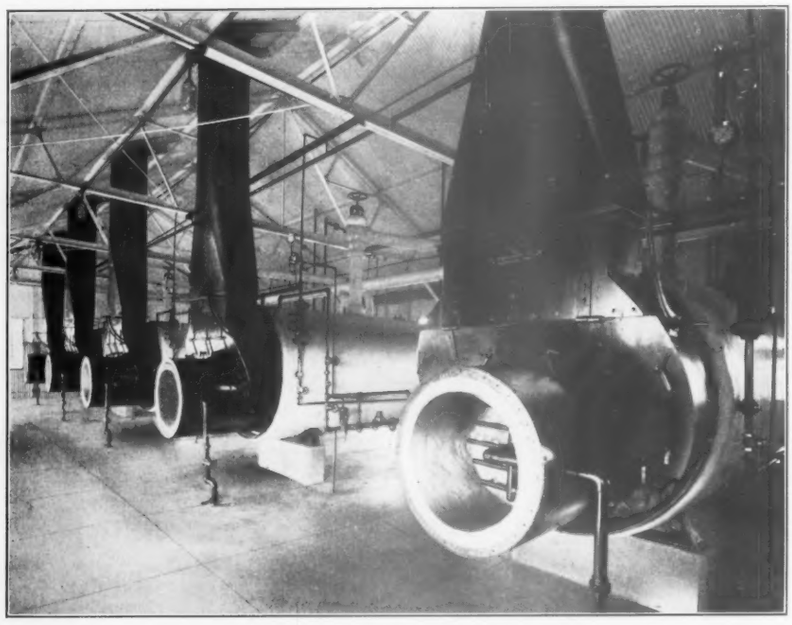


Boiler Room at Seminole District Plant.

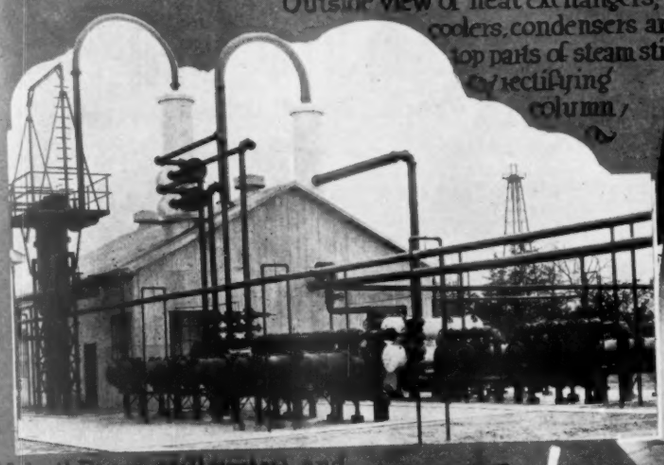
The boiler room of the Sinclair Oil & Gas Co. at Plant No. 13, Seminole District, Oklahoma, is a model for compactness and economy of operation.

It is a fitting tribute that the Internally Fired Boilers used in this plant, the largest Natural Gasoline and Gas Lift plant in the world, were designed, built and sold by

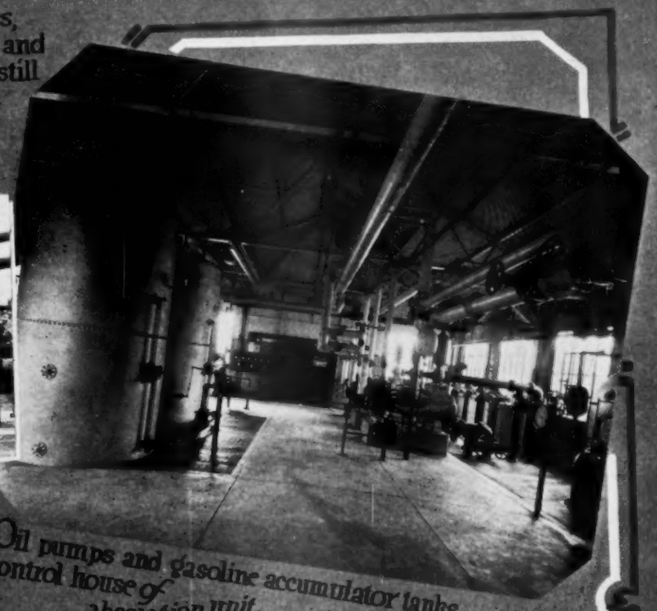
THE CASEY-HEDGES COMPANY

MAIN OFFICE AND WORKS

CHATTANOOGA, TENN.

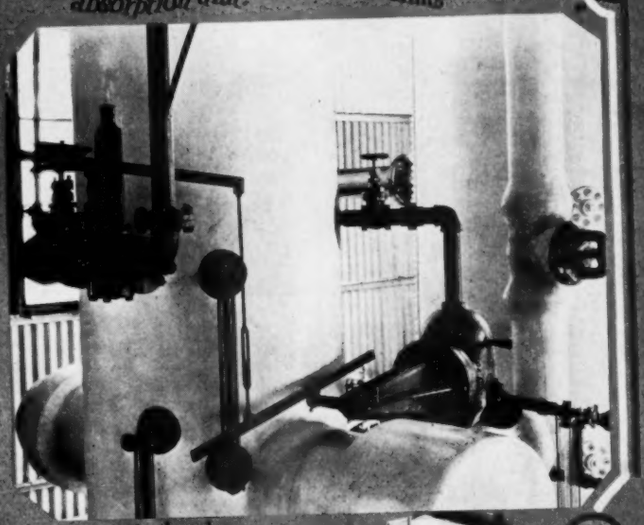


Outside view of heat exchangers, coolers, condensers and top parts of steam still & rectifying column.



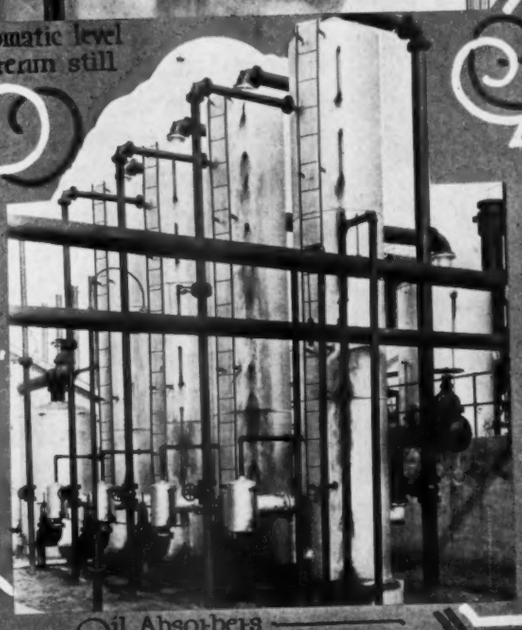
Oil pumps and gasoline accumulator tanks in control house of absorption unit.

(Below) Rerun still (center) and accumulator tank (left) located in control house of absorption unit.



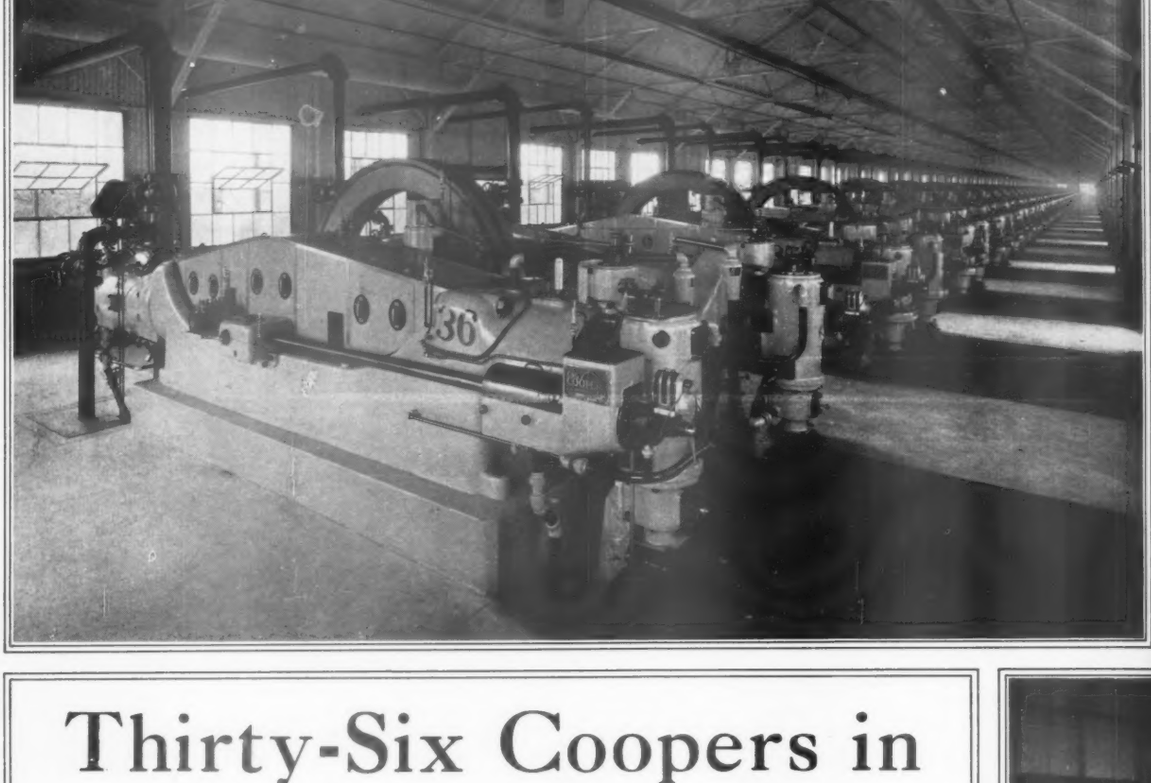
(Above) Automatic level control in rerun still

Control house for absorption unit showing steam still (left) and rectifying column.



Oil Absorbers

COOPER

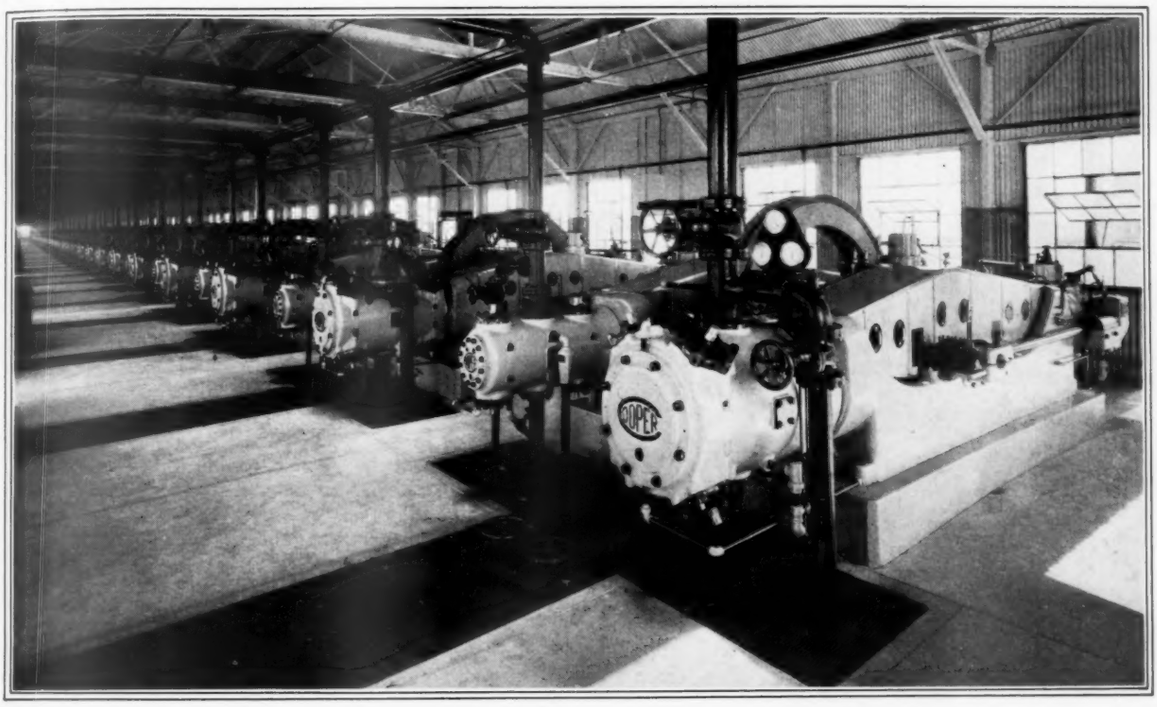


Thirty-Six Coopers in Sinclair's Plant 13

Thirty of the Cooper Type 80-170 B.H.P. gas engines in Sinclair Oil and Gas Company's plant No. 13 in the Seminole Field ran without a single shut-down during the entire month of February. Six of the units were shut down for very short periods only. The running time of the entire thirty-six figured 99.8%, or only two-tenths of one per cent below perfect. The engines were operated at full load and without any attempt to make an outstanding record for the one month. When it seemed advisable for the good of an engine to make an adjustment, it was shut down and the adjustment made. The short time lost for such adjustments forcibly demonstrates the value of the accessibility of Cooper units.

THE C. & G. COOPER CO.
MT. VERNON, OHIO

ENGINES



Show Operating Record of 99.8% for February

Cooper engines have been installed in increasing numbers chiefly because of their greater reliability and low operating costs. A record like this obtained in the world's largest gasoline plant indicates that they do show more operating hours on the load. While we are convinced that so nearly perfect operation could not be obtained with other than the best machinery, nevertheless much of the credit should go to the Sinclair operating staff for their prompt and intelligent attention to operating details. We will not be surprised if they show 100% operation on all thirty-six engines for many of the months in the future.

Picture in center shows C. D. O'Donnell, Chief Engineer of Sinclair Oil & Gas Company's Plant Thirteen.

Branch Offices

Kennedy Bldg., Tulsa — Magnolia Bldg., Dallas

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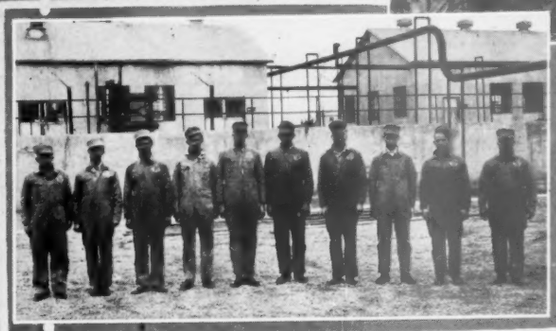
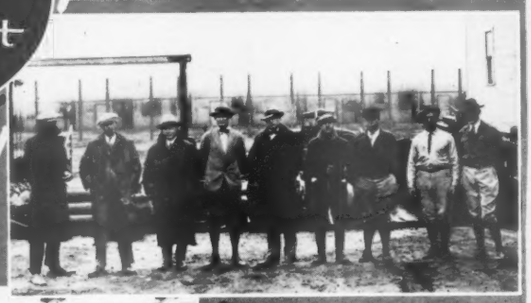


The Three Eight Hour Tours

The Men who Operate the Plant

Safety First Team



Construction and Maintenance Crew

Basket Ball Team

Operating Force

Fire Department

SINCLAIR USES ELECTRIC POWER

Sinclair's Plant No. 13 at Seminole—the world's largest casing-head gasoline plant—uses ELECTRICITY for auxiliary equipment.

Alike with other important companies Sinclair appreciates the economies effected through ELECTRIC POWER.

In all branches of the industry ELECTRIC POWER is now being used:

Drilling
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Pipe lines
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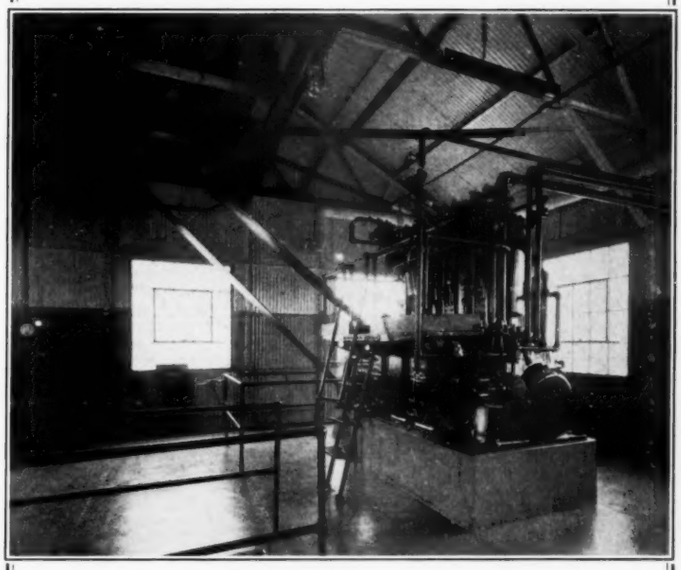
Service provided by Oklahoma Gas and Electric Company completely covers them all. For additional information—address, Commercial Department, Oklahoma City.

OKLAHOMA GAS AND ELECTRIC COMPANY

J. F. OWENS, Vice Pres. and Gen. Mgr.

Courteous Personal Attention to Every Customer

THE FOOS Gas Engine *in* Sinclair Plant No. 13



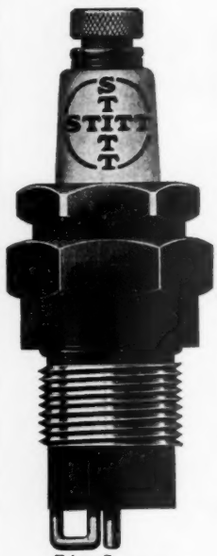
FOOS engines have for years been making records! The one pictured above is another Foos, which during the past year has operated continuously and altho rated at 165 B.H.P. carries an overload the entire time. That it is doing this efficiently and economically is evidenced by the fact that upon its continuous performance depends the successful operation of the entire plant.

Approximately 6,000 B.H.P. of Foos engines installed in all Sinclair plants. For full information concerning Sinclair's experience with Foos engines, write for bulletin G-706.

The Foos Engine Company
Springfield, Ohio
Tulsa Office — 209 E. Archer Street

STITT SPARK PLUGS

No. 19



7/8" Long

The above No. 19 Plug operates the Cooper Engines in the Sinclair-Lima Gasoline Plant.

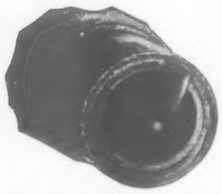
STITT Spark Plugs are Manufactured for

GAS ENGINES
TRUCKS
TRACTORS
AUTOMOBILES

and Motorized Equipment of Every Description

Full Information Will Be Furnished Immediately Upon Request

The above photo shows firing wires of material used by spark plug manufacturers generally. Note how they have burned after only 18 hours' service in engine operating in West Texas—where sulphur is high in gas and oil.



The above photo is of a Stitt Plug with new Stitt Special Firing Wires after more than four months' service in same engine in West Texas where hydrogen sulphide content is high. Note how little firing wires have been burned or eroded.

Stitt Spark Plugs Can Be Purchased at All Oil and Gas Field Supply Stores

Catalog Upon Request.

STITT IGNITION COMPANY
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MILL WHITE

"The Daylight Paint"

Used exclusively for all interior painting in Sinclair Oil and Gas Co.'s Lima gasoline plant No. 13.

Our Industrial Department caters exclusively to the producing, refining and allied branches of the oil industry.

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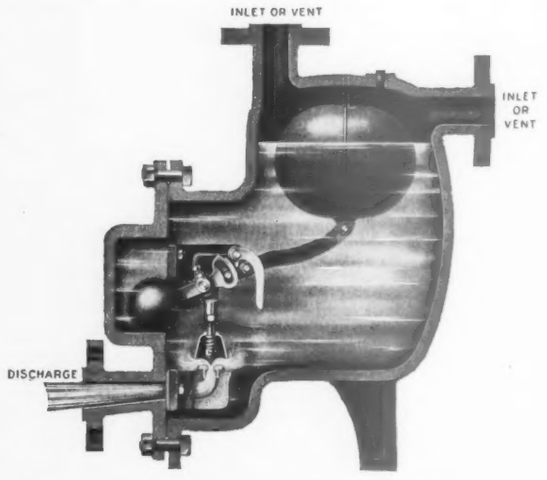

THE NICHOLSON GASOLINE SPECIAL TRAP

has been designed especially for handling gasoline—of any density—at any pressure. A few of the distinguishing features that make this trap supreme for gasoline service are,—Exceptionally large capacity—A very light float of heat treated steel—Protected valves—Large gasoline seal—Intermittent discharge—etc. Write for bulletin 328 which tells about the above features, and other reasons why Nicholson Gasoline Traps are chosen by the world's largest gasoline producers.

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Tulsa Representative—VINSON-CANTER CO.
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One of the "Smith Type" Hill Friction Clutches installed in the new Lima Plant No. 13 of the Sinclair Oil Company at Seminole, Okla.—the largest natural gasoline manufacturing plant in the world.

Where dependability, efficiency and durability are of first importance "Smith Type" Hill Clutches are the safest, most practical to use...mechanically correct, 100% effective friction contact, and plenty of reserve power. A sound, logical installation for economical operation of prime power units, individual machines, sections of shafts or group drives.

Built in 20 sizes from 9 to 1300 H. P. at 100 R. P. M.

Write for detailed literature—also on Oil Film Bearings, Speed Transformers, Belt Tighteners and other Power Transmission Equipment.

The Hill Clutch Machine & Foundry Co.
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6410 Breakwater Ave. Cleveland, Ohio

Operating Oil Absorption Division

Automatic Control Stressed in Operation of Eight-Unit Plant. Provision Made for Future Enlargements

By C. O. Willson

The construction features and method of operating the oil absorption division of the No. 13 plant of the Sinclair Oil & Gas Co. in general is similar to other installations at Sinclair plants. In this latest installation, however, some changes have been made in the type of equipment which have added to the efficiency of the operation.

The absorption division at present is second in importance to the compression plant operation. The latter as previously explained furnishes the high pressure gas needed for the flowing of wells.

It is probable, however, that later the absorption operation will increase in importance at the expense of the compression operation. Although no time limit can be established for the flowing of wells by the gas lift it is certain that this method of lifting the oil cannot be used indefinitely. Many wells in the Seminole area have already been shifted from the gas lift to the pump in which case the operation is similar to that of any other field which is producing oil on a settled basis.

The change from the gas lift to the pump affects the gasoline plant operations in two ways. In the first place it does away with the necessity of the gasoline department furnishing the high pressure gas. It also greatly reduces the amount of gas available. The amount of gas necessary to secure the maximum flow of oil from wells varies widely and the same situation is true in regard to the quantity of casinghead gas available from a pumping well. A million or more feet daily is often required for flowing a well. This same well on the pump might not produce more than 50,000 feet of gas daily. This smaller volume of gas is usually much richer in gasoline content than is the recycled gas of the gas lift operation.

Additional oil absorbers, receiving tanks, heat exchangers, condensers, etc., could be added as needed. The Sinclair management anticipates that the company will have the necessary gas available for a large absorption plant when the gas lift operation has been discontinued.

The eight low-stage compressor units of the absorption division take suction from the 20-inch line which also furnishes the gas for the 28 units of the compressor division. The gas from the low-stage compressors first passes through a scrubber where any oil is removed. It is then cooled in four gas coolers of the shell and tube type which are connected in parallel. From the coolers the gas passes through an accumulator tank and then to four oil absorber units connected in parallel.

An automatically controlled back pressure valve maintains a constant gas pressure at the absorbers assuring a uniform gas flow. The oil flow to the absorbers is also automatically controlled. These two controls properly adjusted assure the desired contact of gas and oil at all times in the absorbers.

The lean gas from the absorbers goes direct to what is known as the residue gas control house. At this point the gas is distributed for its various uses. Approximately 1,500,000 cubic feet are required daily to operate the plant's engines. Part is used as fuel for the plants and the homes for employes. The bulk of the gas is returned to the leases from which the wet gas was obtained. There it is used by the individual companies in their own gas lift operations and also as fuel in the drilling of new wells.

Residue Gas

This arrangement for handling the residue gas is another illustration of the part control instruments are playing in the operation of gasoline plants. A constant pressure is maintained on the main line from the absorbers by means of a back pressure regulator. Automatic controls also regulate the quantity of gas going to the several uses. Finally an automatic control releases any gas in excess of the combined requirements. From the main line furnishing gas to the engines, fuel gas regulators regulate the quantity of gas going to each engine.

The distillation and condensing operation for the oil absorption division, center in a separate control building. The lean oil is circulated through the four absorber units with a steam pump. The fat oil from the absorbers accumulates in a gas-tight surge tank where it is picked up by a second steam pump which starts the distillation operation.

This fat oil is first pumped through five heat exchangers of the shell and tube type where the heating medium is the lean oil from the steam still. It then passes through two steam preheaters connected in series where it is brought to the desired temperature for distillation. In the steam still, metered superheated steam is injected to facilitate the separation of the gasoline vapors from the oil.

From the bottom of the steam still the lean oil is automatically trapped out and pumped to the five oil-to-oil heat exchangers where as previously explained it preheats the fat oil. From the last of these oil-to-oil exchangers the lean oil goes to an oil-to-water cooler unit where it is cooled to a temperature at which it can be used in the knock-out coil of the rectifying column. After the oil has passed through the lower knock-out coil it is returned to a second oil-to-water cooler unit and then to the top knock-out coil of the rectifying column. From the latter, the oil passes to a final cooling unit and then to a surge tank where it is picked up by the steam pump which circulates the oil through the oil absorbers. The cycle of oil circulation for the absorption unit is then completed. The steam pumps used in this operation have a standby unit.

Rectifying Column

The gasoline vapors from the steam still pass to the bottom of the rectifying column. There some of the steam is condensed out and the oil and heavy ends are knocked out, accumulating in the bottom of the still. Automatic oil and water level controls trap the oil and water out of the still. The oil is returned to the fat oil surge tank. The vapors from the top of the rectifying column pass to two shell and tube type condensers connected in series. The condensate and some noncondensible gases from the condensers go to the accumulator tanks of the control room.

A constant gas pressure is maintained on the accumulator tanks by means of the automatic back pressure regulators. The excess noncondensible pass to the gas line from which the engines take suction.

From the accumulator tanks, the condensate as finished gasoline is automatically trapped to the storage tanks. Any water in these tanks is automatically trapped out. An automatic back pressure regulator maintains constant pressures on all storage tanks. The excess from all types is metered as an additional check on the operations before being returned to the gas system.

Control Instruments

There are additional control and recording instruments which serve as a constant check on all phases of the operation. One control board contains the following instruments: 1—temperature of oil in and out of the steam still; 2—temperature of condensate as it leaves gasoline condensers; 3—temperature and temperature control outlet of rectifying column; 4—temperature of oil going to absorber.

The pressure controls in the control building of the absorption operation previously mentioned are as follows: 1—control pressure on receiving or accumulator tanks and gasoline condensers; 2—control pressures on stocks tanks; 3—control pressure on rerun still. In addition there are numerous recording thermometers in all parts of the plant.

Rerun Still

A rerun still takes care of the condensate from the accumulator tank after the four gas coolers drip gasoline from field and other liquids which must be rerun before a finished product suitable for marketing is obtained. This rerun operation is similar to the procedure in the main distillation operation.

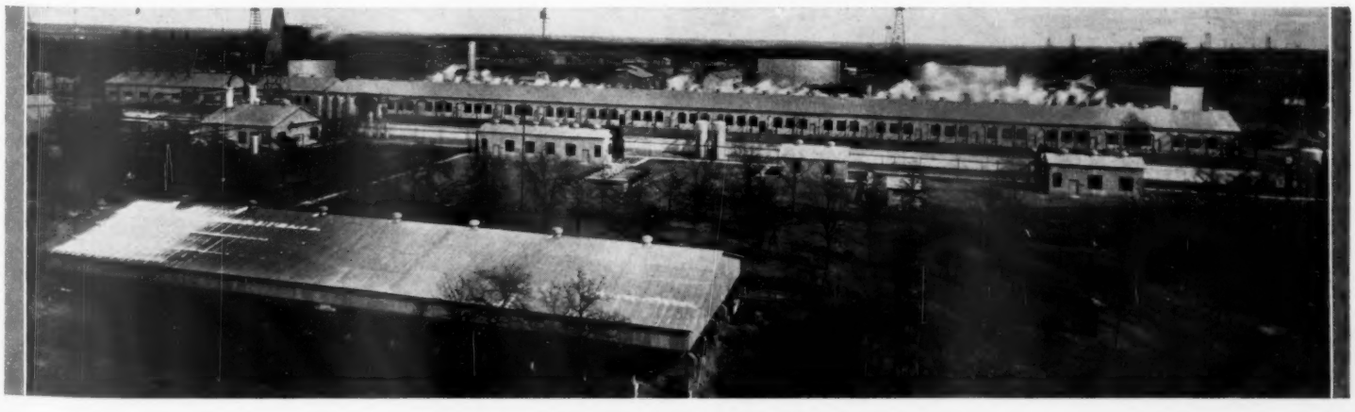
The off color condensate going to the rerun still is preheated by passing through a tubular exchange which is heated by the vapors from the still. A tubular steam heater then brings the condensate to the desired temperature for the vaporization of the gasoline fractions. The overhead vapors are taken through the exchanger and pass to a condenser and then to the plant storage. A float in the still maintains the desired flow of rerun material to the still. The condensate in the bottom of the still is trapped off automatically and the back pressure control maintains a constant pressure on the entire operation.

Auxiliary Room

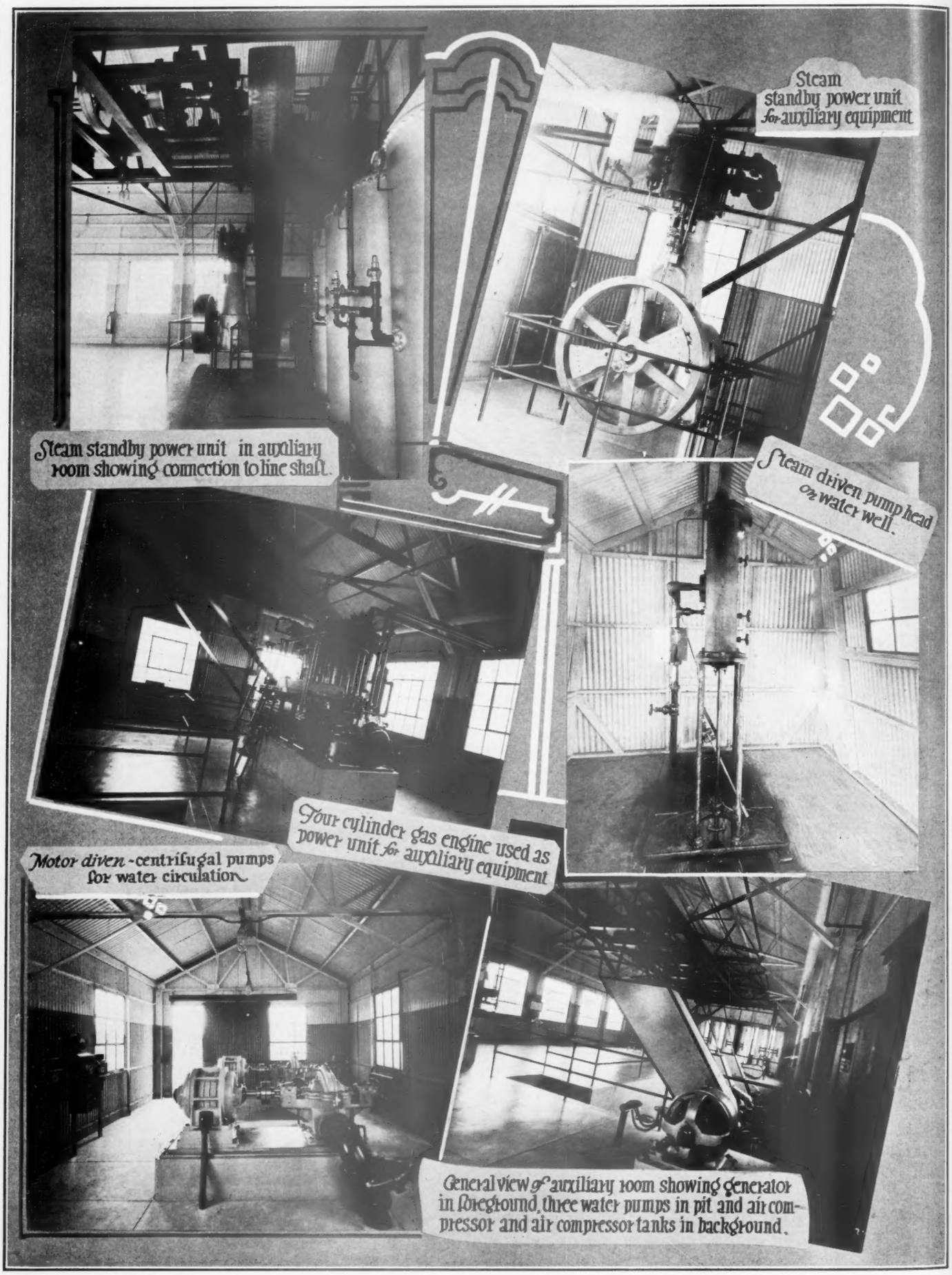
The main power unit of the plant is a 165-horsepower 4-cylinder vertical type gas engine. A steam driven standby is also provided. The power unit drives a line shaft to which are connected the plant generator and water pumps. The generator supplies all the electricity required in the plant operation including the homes of employes and the main dormitory. The air compressor is motor driven taking power from the plant generator. The plant is also connected to an outside power source for an emergency in which the company's own generating system failed. For this possible need a double lighting system is maintained in the engine and compressor building and other important divisions of the plant operation.

In the pit of the auxiliary room are three centrifugal pumps each connected to the line shaft having a capacity of 1,500 g.m.p. These pumps are mani-

(Continued on Page S-38)



View of No. 13 gasoline plant from one of the water cooling towers.


Steam standby power unit for auxiliary equipment
Steam standby power unit in auxiliary room showing connection to line shaft.
Steam driven pump head on water well.
Four cylinder gas engine used as power unit for auxiliary equipment
Motor driven - centrifugal pumps for water circulation
General view of auxiliary room showing generator in foreground, three water pumps in pit and air compressor and air compressor tanks in background.

UNITED CAST IRON EXHAUST PIPES AND PITS

THE MOST ECONOMICAL AND DEPENDABLE METHOD FOR DISPOSING OF EXHAUST

WHEN building their enormous new gasoline plant at Seminole, the Sinclair Oil & Gas Company called upon "United" to furnish the necessary exhaust pipe and pit equipment to deaden and remove the exhaust fumes and gases. The illustration above shows the 36 Cooper Engines, whose exhaust gases are so satisfactorily disposed of by this "United" Equipment.

More and more refiners are installing "United" Exhaust Pipe and Pit Equipment, for they have found it to be the most dependable method for eliminating the problem of exhaust noise, gas and fumes. "United" Exhaust Pipe and Pit Equipment is built of a high grade cast iron—insuring long life of dependable service. Can be disassembled and easily moved to a new location. Why not let us tell you more. Write today.

Circular on Request

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RIG IRONS and STEEL EQUIPMENT
STEEL TANKS
DRILLING MACHINES
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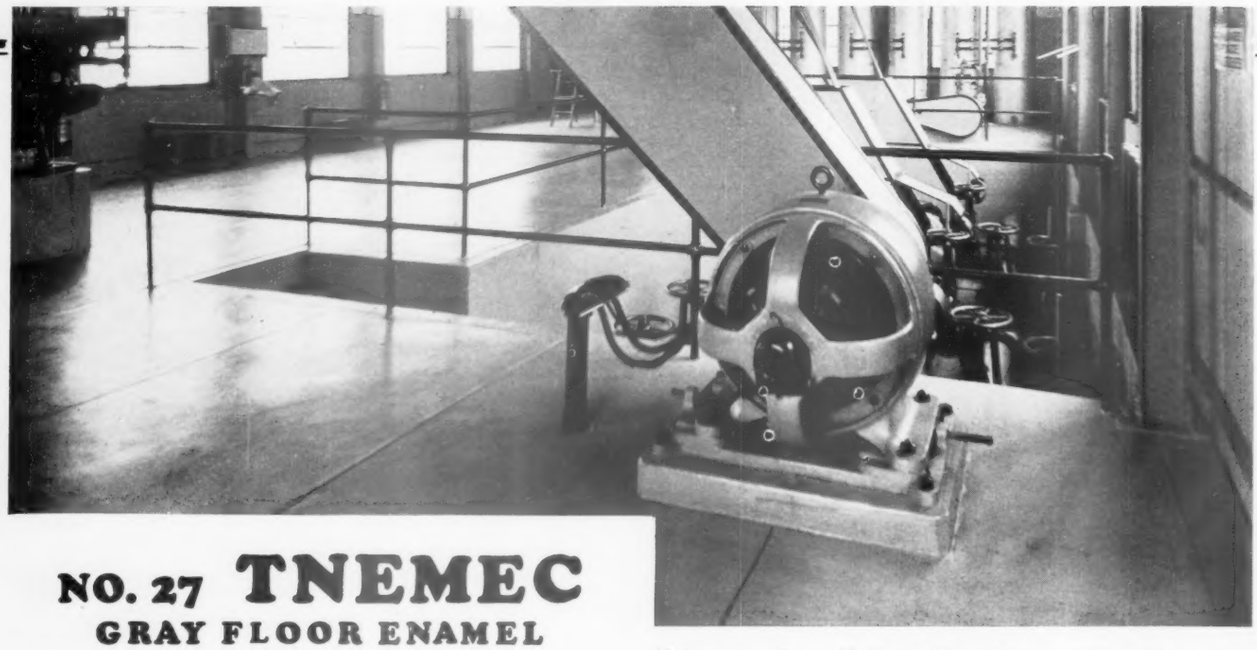


NO. 27 TNEMEC
GRAY FLOOR ENAMEL
Used in This Sinclair Plant

NO. 27 TNEMEC GRAY FLOOR ENAMEL was used on the cement floors of the world's largest and most efficient gasoline plant. This is the Seminole Plant No. 13, one of the many gasoline plants of the Sinclair Oil and Gas Company.

Note the high-gloss tile-like finish of this cement floor.

Other gasoline manufacturers can have the same beautiful cement floors if they will use Tnemec Floor Enamels.

The Continental Supply Company carries No. 27 Tnemec Gray Floor Enamel in each one of their stores for your convenience on emergency orders. On large orders, they will give you quick service direct from factory. Ask a Continental man about it.

TNEMEC PAINT & OIL COMPANY
KANSAS CITY, MO.

Every Truck in The SINCLAIR OIL and GAS COMPANY'S Fleet of 45 Macks Is Equipped With A—

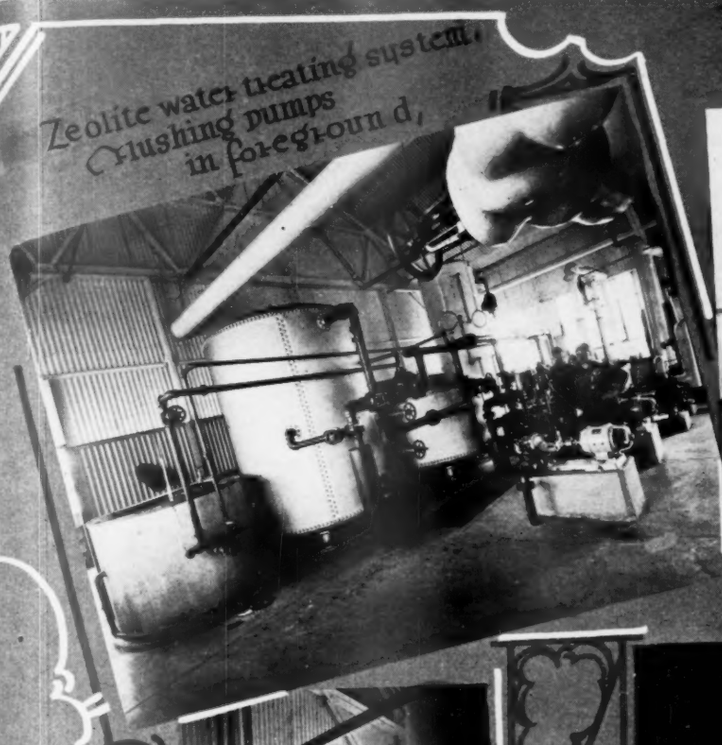
BRADEN WINCH

MANY oil companies now consider the BRADEN Winch indispensable because of the extra amount of work accomplished by each truck, and the time and extra labor saved.

By its ability to transport its own truck over otherwise impassable roads, the Winch enables oil operators to make locations that would be impossible without it.

Used for loading purposes, the Winch enables owners to send trucks with only a driver after loads that would otherwise require the help of at least one extra man.

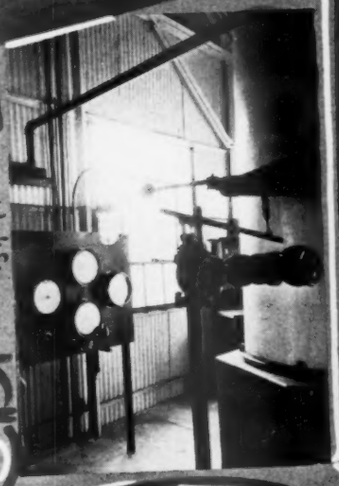
The BRADEN Winch delivers practically the full power of the truck motor to any winch job, yet is small, light, and entirely out of the way of the truck load. Operates *independently* of the wheel. In years of use, causes no excess wear on differential. Write for full particulars. BRADEN STEEL & WINCH COMPANY, Tulsa, Okla.



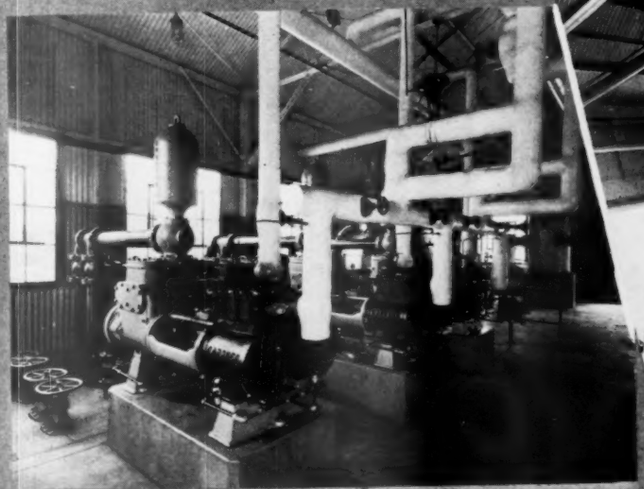
Zeolite water treating system. Flushing pumps in foreground.

Pressure controls in absorption control building.

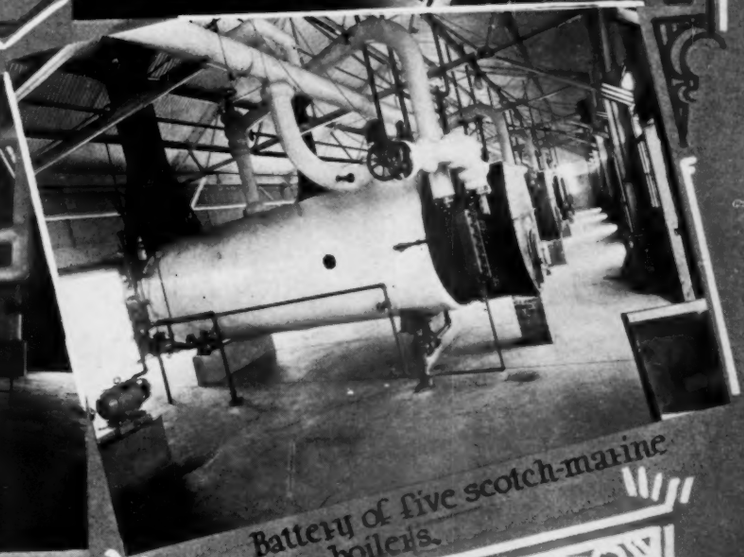
Boiler feed pumps and feed water tanks. *(Below)*



Instrument board in control house of absorption division.

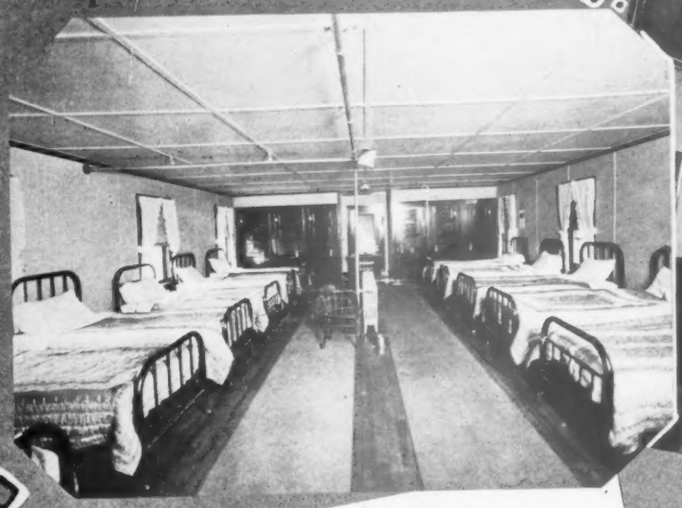


Steam pumps for absorber oil circulation.



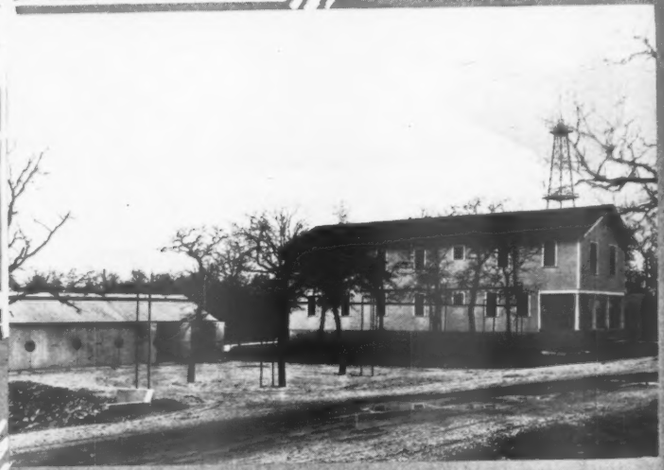
Battery of five scotch-marine boilers.

Inside view of dormitory

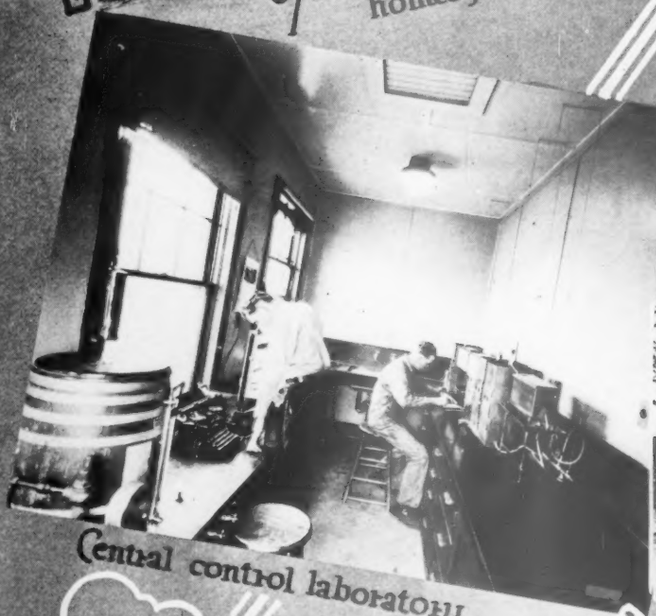


Operating Office

Five of the twelve homes for employes



Plant dormitory



Central control laboratory

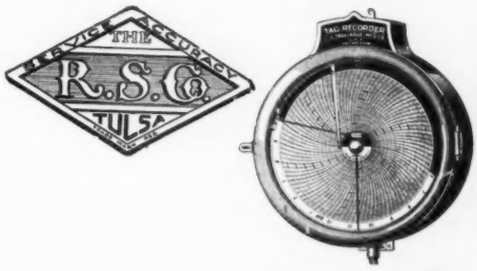
Community house

OK PORTLAND CEMENT

—was in the construction of Sinclair Oil and Gas Company's Natural Gasoline Plant at Seminole. Important construction always finds O. K. CEMENT "on the job."

Oklahoma Portland Cement Company

1018 Perrine Bldg.—Oklahoma City



LARGEST JOBBER

"TAG"

Controllers, Recorders, Thermometers and Oil Testing Instruments

THE REFINERY SUPPLY CO.

Largest Scientific Material House in the Southwest

Fourth and Detroit
Tulsa, Oklahoma

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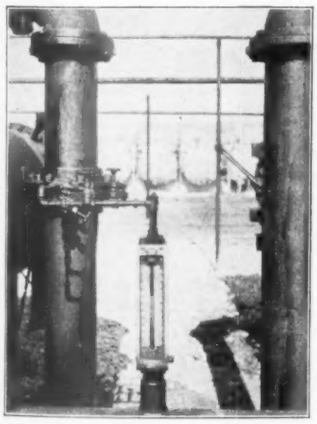


One of the Meriam Indicating Flow Meters in the Covington Plant.

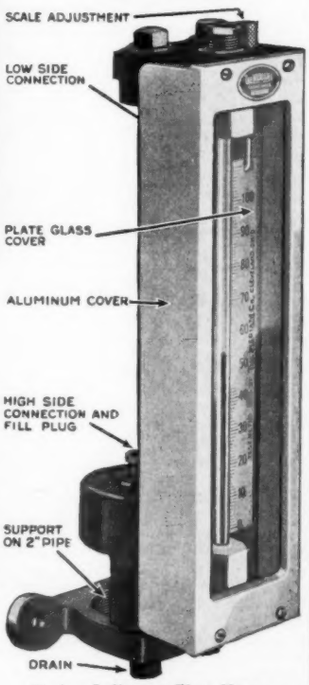
Because of their accuracy; their simplicity; their rugged construction; the quickness and sureness of reading the "Indicated Flow"; their adaptation to the flow of Air, Water, Any Gas or Oil at Any Temperature or Any Pressure; and their Low Price; these MERIAM INDICATING FLOW METERS have been adopted by "Sinclair" as standard equipment in their Gasoline and Gas Lift Plants

MERIAM MANOMETERS are also found in all "Sinclair" Plants.

THE MERIAM CO.

8405 Detroit Ave.
CLEVELAND, OHIO

MERIAM INDICATING FLOW METERS



Meriam Indicating Flow Meter.

We Appreciate

the continued patronage of the Sinclair Oil & Gas Co. as evidenced by the 100% installation of Newton Absorbers.

NEWTON PROCESS
Manufacturing Co.

904 Hollingsworth Bldg., Los Angeles

Well Trained Staff Operate Plant

Men Thoroughly Experienced in Handling Various Phases of Operation. Safety Centers in Plant Cleanliness Program

No story of the No. 13 gasoline plant of the Sinclair Oil & Gas Co. would be complete without saying something about the men who operate it.

The writer believes that a visitor to the plant will be as much impressed with the personnel as with the plant itself. This applies not only to the so-called bosses but also to the men who fire the boilers, lubricate the engines and have charge of the various phases of processing and plant maintenance. The plant everywhere reflects the fact that every member of the operating staff takes personal pride in doing well his particular job.

As has been explained in previous pages the Sinclair plant consists of highly specialized equipment whose operations are largely automatically controlled. To the uninformed the advent of the automatic control instruments lessened the need for high class men in plant operations. Every superintendent, however, knows that the opposite is true. The perfection of modern equipment in gasoline manufacture has reduced the number of men needed per unit of manufactured output but at the same time it has emphasized the requirement of capable men in all phases of operation. Intricate equipment produces satisfactory results only when the men in charge understand its mechanism thoroughly and are constantly checking its operation. Automatic controls make for uniform and well-correlated operation except when they are not functioning properly due to careless employes.

Employment of Men

The Sinclair plan of securing efficiency in plant operation starts with the employment of the men. The details of employment methods need not to be explained here. For gasoline plant operations, only young men are employed. Every man connected directly with the operations of the No. 13 is not over 40 years with the average under 30 years. The care exercised in employment may be indicated by one ruling which provides that relatives cannot be employed at the same plant. This is a precaution against that "relative proposition" which has seriously hampered the work of many industrial units in the petroleum world.

Once employed the man is trained for his job. Here again it is not necessary to go into detailed explanation of a system which aims to place a man in the position for which he is particularly fitted with promotions as they are deserved and are available.

General Management

The No. 13 plant, although the largest is only one of 15 plants operated by the gasoline department of the Sinclair company. The general management of the department centers in the Tulsa headquarters headed by H. B. Bernard, vice president. Next to the general management is the district management and under the latter are those directly charged with the responsibility of operating each plant.

Plant Homes

To an outside observer there are several factors contributing to the esprit de corps of the No. 13 plant. One has already been mentioned. This applies to the provision made for company employes after working hours. An executive of a large company recently said that "more and more, oil companies are coming to realize that it pays to furnish their employes' homes with as many comforts as oil field conditions will permit." The old idea that the development of new fields must necessarily be associated with the worst type of living conditions which only a hardened field man could withstand, is passing. The need for men of mental caliber capable of handling the expensive equipment now common to all development work has been a factor in this changed condition.

The 12 houses for married employes and the dormitory for the unmarried men at the No. 13 plant are more than places to "eat and sleep." Accommodations are such that the 12 houses are homes in every sense of the word. To provide these facilities was not easy. The plant site is located in an area which has been proved for the production of crude oil. Due to this fact it was necessary to arrange the plant buildings so as not to interfere with the drilling of the wells.

The 12 houses are arranged in a half square with connecting sidewalks both in front and rear. The houses have every facility found in a city home.

The two-story dormitory is steam heated. Shower baths and a reading room are provided. Trade publications and other reading matter are provided for the reading room. One man is in charge of the dormitory. In addition to the men connected with the plant operation the dormitory provides accommodations for some of the field force and those from the main office who regularly keep in touch with the plant operations.

These provisions as to homes in the opinion of the Sinclair management make for satisfied employes to whom the operation of a plant representing a heavy investment can be intrusted. As explained by one engineer connected with the general management, "the initial cost is more but it is worth it."

Safety Work

The question is asked "What about safety?" an important feature of operation which is always associated with natural gasoline plants.

The Sinclair plant unquestionably has it in large quantities. The general safety rules of the gasoline department accompany this article. These rules which are found at several points in the plant printed in large type on framed signs are supplemented by small placards which aim to advertise the safety program.

"Think," "Be Careful" and "Dangerous" are representative of these signs. As a precautionary measure the company furnishes all employes with safety matches. Other safety measures are the usual railings and various contrivances protecting the employes from dangerous machinery.

Cleanliness

The Sinclair safety program, however, is more than a matter of signs and mechanical contraptions. If the writer was asked to name the one outstanding feature around which the plant's entire operation centered a one-word description would be "cleanliness."

Those responsible for the operating policies of the Sinclair plants do not believe that dirt, oil or any other waste accumulations are necessary in any part of the plant after the construction work has been completed. It is not necessary to explain that this policy has a very important bearing in the safety program. The plant where gasoline or oil is allowed to accumulate even in small quantities and where the operating equipment is not kept clean is a dangerous plant.

The plant was built with this program of neatness and cleanliness in mind. Concrete sidewalks connect to every part of the plant where it is necessary for the employe to go. Concrete aprons are provided for the heat exchangers and water coolers located outside the buildings. The ground around the plant is sodded.

The spotlessly clean appearance of the engine and compressor room has been previously mentioned. This room is typical of all other parts of the plant. Paint is used liberally to brighten the plant's equipment and furnish the incentive to maintain a neat appearance. All the equipment where heat conservation is important is heavily insulated. This insulation is carefully maintained and is kept painted.

The paint program extends to the inside of the buildings where the concrete floors are kept covered with a specially prepared paint. Small accumulations of water, gasoline or oil are quickly mopped up.

Plant Laundry

Used rags are not permitted to accumulate. The dirty rags are thrown in containers especially provided for that purpose. These are regularly picked up and taken to the laundry.

This laundry is the center from which the plant cleanliness radiates. It is located in a building which also houses a changing room for employes. The changing room has individual lockers for employes with a shower bath. The laundry has complete equipment for the washing and drying of clothes.

The rags are cleaned and then returned to the different parts of the plant for further use. The regular employes all wear overalls purchased from the company and bearing the company name. These overalls are cleaned twice a week at the plant laundry.

In the Sinclair plan of operation personal neatness assures the same attitude toward plant operations. The plant of neat appearance is safe, indicating an alertness on the part of operators coupled with pride of work-

(Continued on Page S-38)

SAFETY RULES OF SINCLAIR'S NATURAL GASOLINE DEPARTMENT

1. Plant operators will not leave the plant at any time during their tour. Employes will not wear coats with loose sleeves or skirts. Shirts and jumpers should be tucked into trousers. Company unionalls are available for regular employes.

2. Any defects in buildings, machinery, stairs, ladders, walkways, equipment, etc., must be immediately reported to the superintendent or chief engineer.

3. When serious or dangerous defects occur in a machine it must be shut down until repaired.

4. Never start an engine of over 35-horsepower by tramping the flywheels. Before turning an engine over render the ignition system inoperative. Toe boards, floor plates, guards and railings should be in place before starting any machine.

5. Never stop an engine by pulling off or disconnecting the ignition wires; shut off the gas.

6. If necessary to shut down the entire plant, in case of emergency, pull out levers of fuel pressure regulators on engine fuel gas line. All primary valves must be tagged and all employes must be familiar with their service and location so that in the event of fire the proper valves may be shut to keep the inflammable product from the fire.

7. All employes must be familiar with the location of fire fighting equipment, and the methods of using and charging same. There must be affixed to all extinguishers a tag showing by whom and when it was last charged. Fire plugs are painted yellow so as to be easily identified. The fire signal is repeated short blasts of the whistle.

8. Smoking or carring "strike anywhere" matches inside the plant fence or buildings or around loading racks is prohibited.

9. Magnetos, spark plugs and other ignition devices must not be tested, repaired or assembled in any building or place where gas or gasoline vapors might be present.

10. All electric lights in any building or place where gas or gasoline vapor might be present must have vapor-proof globes and must not be lighted unless same are in place. Extension lamps are to be kept in order at all times and should not be used unless they have approved cords and vapor-proof globes protected by metal guards.

11. Electric light bulbs must not be removed from or placed in any circuit, either inside or outside while the current is on. Electric flash lights must not be switched on or off where gas or gasoline vapor might be present.

12. Waste and rags must be kept in the cans provided for the purpose except when actually in use. Waste or rags must not be placed around the machinery to catch drip oil. Rags must be hung up to dry only in the place provided.

13. Tools when not in use must be kept in the racks and cabinets provided. They should not be left on floors, machinery or walkways.

14. The use of iron hammers in any building or place where gas or gasoline vapors might be present is prohibited. Cooper hammers are provided.

15. When work is being done in boilers, the "man in boiler" sign must be in place. When work is being done in a tank or tank car the "man in tank" sign must be in place.

16. The mesh wire guards on gauge glasses must be securely in place at all times.

17. Tanks and tank cars must be free from gas and gasoline vapor before any one enters them. If possible steam them out. Men must not enter tanks or tank cars without gas masks in place and without having ropes attached to their bodies and some one stationed on the outside to operate the mask blower and pull them out in case they should be overcome by gas.

18. None but company automo-

(Continued on Page S-38)

VICTAULIC COUPLINGS
connect Sinclair Pipe Lines

Because—they are permanently leak-proof

Natural gas and natural gasoline at high pressure put joints to a hard test. The smallest leak will soon waste many times the cost of any kind of couplings.

Therefore it is not surprising that on the vacuum lines, the natural gas and natural gasoline lines which serve this largest of natural gasoline refineries, the engineers selected Victaulic Couplings.

Besides providing permanently leak-proof lines, Victaulic Couplings assure flexibility under pressure or vacuum and a strain-free line that does not pull apart or buckle when varying temperatures cause the pipe lengths to contract or expand. Victaulic Couplings are also the quickest couplings to install. Unskilled labor can install them at the rate of two minutes per coupling.

They are available in all sizes from ¾ inch up, for steel, wrought iron or cast iron pipe, for all pressures from vacuum to ten tons pressure per square inch.

For detailed information and list of uses and users, fill in and mail the coupon.

VICTAULIC COMPANY OF AMERICA
26 Broadway **New York**

All-Purpose Couplings

"For every joint on the line"

Western Distributors

SMITH SEPARATOR COMPANY
Tulsa S Okla.

Flexible Leak-proof

VICTAULIC
REG. U.S. PAT. OFF.
PIPE COUPLINGS

VICTAULIC COMPANY OF AMERICA
26 Broadway, New York

Please send Victaulic Bulletin No. 1.

Name .....

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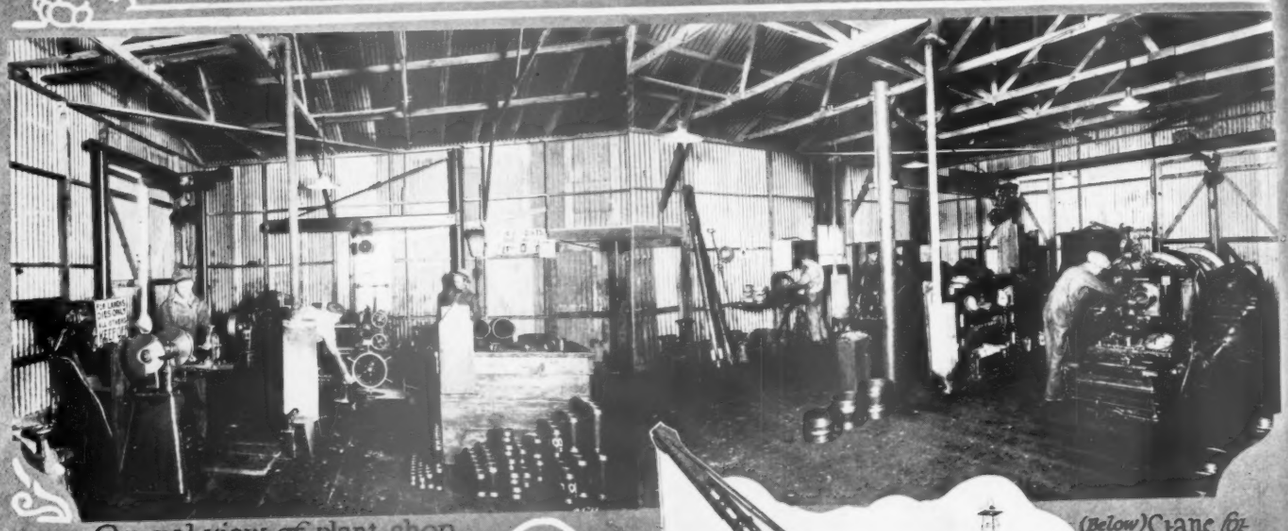
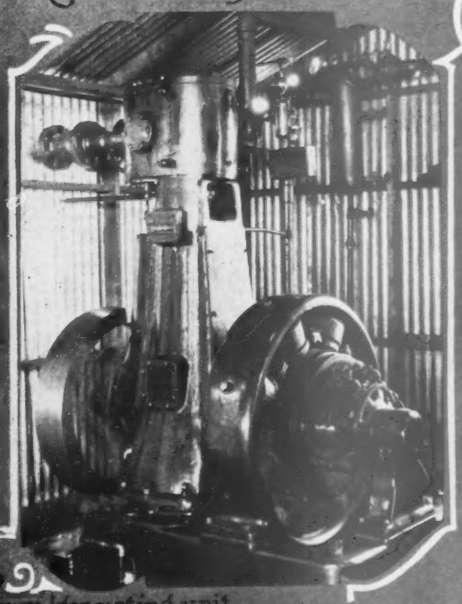
FOR CRUDE OIL, GAS, WATER, SEWAGE, COMPRESSED AIR, ETC.



General view of plant shop.

(Below) Crane for unloading material



Power generating unit of plant shop.

Central loading rack.

Another view of loading rack.

Control house for residue gas.

They Used "Moly" Shovels and Spades at Plant No. 13

"Moly" is the affectionate nickname by which a workman calls an H. K. Wood's Mo-*lyb*-den-um steel shovel. This is the shovel that is built with a nice, big, easy grip to the handle, a patented step that rests the foot, and the "hang" that makes any shoveling job seem easier.

Tough, hard Mo-*lyb*-den-um steel in the blade resists wear and lasts, as tests have proved, four times as long as an ordinary shovel.

Both the men who use them and the men who buy them, swear by "Moly" shovels.

The Wood Shovel and Tool Company
Piqua, Ohio

A shovel for every industry—distributed in every city.

Wood's Mo-lyb-den-um Steel Shovels

NORVAL & DIAL
INC.

DODGE BROTHERS MOTOR CARS

GRAHAM BROTHERS TRUCKS

Tulsa - Sand Springs - Sapulpa - Bristow

Type of Niagara 1" DV Hot Water Meter used on Sinclair installation shown at left.

NEW SINCLAIR PLANT IS NIAGARA METER EQUIPPED THROUGHOUT!

The new natural gasoline plant of the Sinclair Oil and Gas Company, which has just recently been put into operation at Seminole, Oklahoma, is considered to be the largest of its kind in the world, and is noted for its advanced design and its efficiency in operation.

The installation of Niagara 1" DV type hot water meters on the five boilers shown above are used for measuring boiler feed water. This is but one of the many departments where Niagara Meters are in daily use, giving accurate and dependable measurements on liquid flows.

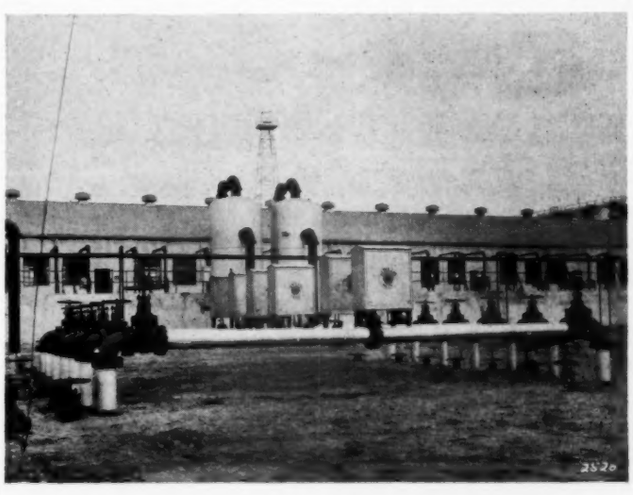
A TYPE AND SIZE FOR EVERY NEED!

Whatever your requirements may be, and whatever branch of the Petroleum Industry you may be in, there are types and sizes of Niagara Oil Meters that will give you *accurate* and *dependable* measurements on any liquid. Niagara Oil Meters are available in sizes ranging from ½ inch to 6 inches, with capacities ranging from 2 to 300 gallons per hour to 10,000-40,000 gallons per hour.

Write for illustrated booklet and price list.

BUFFALO METER COMPANY
2931 Main Street, Buffalo, N. Y.

NIAGARA OIL METERS
The Guardians of "Liquid" Profits



The above photograph shows six Peerless Weatherproof Meter Houses installed at the World's Largest Gasoline Plant, Sinclair Oil & Gas Company's Plant No. 13 at Seminole, Oklahoma.

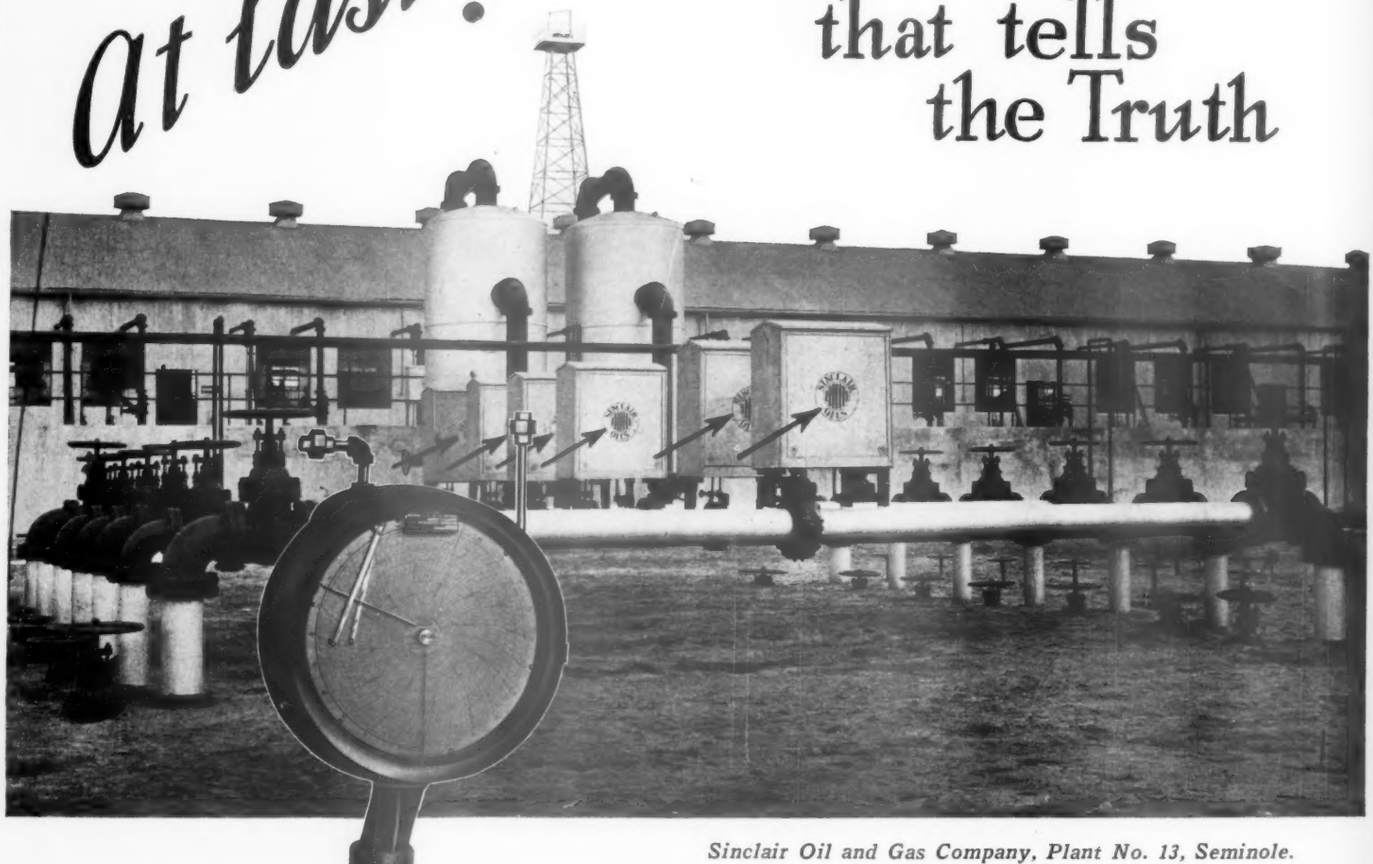
Peerless Weatherproof Meter Houses are shipped knocked down and may be assembled in a few minutes.

Manufactured in sizes to meet your requirements.

Moran Furnace & Sheet Metal Co.
TULSA, OKLAHOMA

Phone 2-7902 **809 East 5th Place**

at last! An Orifice Meter that tells the Truth



Sinclair Oil and Gas Company, Plant No. 13, Seminole. Meters used to measure incoming gas.

AT LAST—AN ORIFICE METER THAT TELLS THE TRUTH!

THINK what it means to you to have an Orifice Meter with no inherent error. The new principle of Uniform Multiplication has been accomplished by Foxboro by means of a segmental lever. You have an absolutely uniform scale chart. An inch is an inch. No other orifice meter has this revolutionary improvement.

The records by which you buy or sell gas can now be accurate, not approximate. Office correction for variables is reduced to a minimum. Permanency of calibration and accuracy are built in at the factory. It's all there—right on the chart. There is no appeal from its verdict, no small hidden errors that may mean thousands of dollars to you.

To the man in the field, the sturdiness of the new Foxboro Orifice Meter makes a strong appeal. It is so easy to clean, so easy to assemble. After filling with mercury, a simple micrometer screw zeros the meter. A few drops more or less make no difference. Calibration is permanent. The size of the vital working parts is increased. The uniform pen travel is another way of saying uniform chart scale. The result is an amazing accuracy of performance which has never been reached before.

This new Foxboro Orifice Meter has been thoroughly tested in the field. Hundreds are already in operation giving utmost satisfaction. It has not only established this revolutionary new standard of performance, but has preserved the reputation for reliability that characterizes any instrument bearing the name of "Foxboro." This meter has already been accepted by the engineers of the leading gas and oil companies throughout the country.

Foxboro will have an exhibit at Natural Gas Convention to be held in Dallas, Texas, during the week beginning May 7th, 1928.

We suggest that you get in touch with our nearest branch office.

THE FOXBORO COMPANY
Neponset Avenue, Foxboro, Mass., U. S. A.
205 So. Cheyenne Ave., Tulsa, Okla.

New York	Los Angeles	Cleveland	Boston
Pittsburgh	Chicago	Detroit	Rochester, N. Y.
	San Francisco	Atlanta	
	Philadelphia	Portland, Ore.	

FOXBORO

REG. U. S. PAT. OFF.

THE COMPASS OF INDUSTRY

Instruments for Controlling, Recording and Indicating Temperature, Flow, Humidity and Pressure.

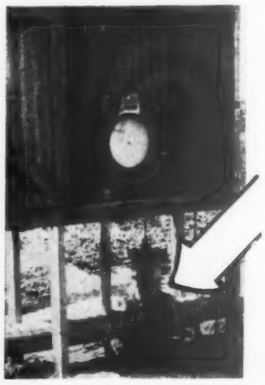
Plant Equipment and Materials

Names of Companies furnishing equipment and materials used in the construction and operation of the No. 13 gasoline plant of the Sinclair Oil & Gas Company

NAME OF COMPANY	ADDRESS	PRODUCT
American Salt Co.	Kansas City, Mo.	Salt for Water Treating
Atlas Valve Co.	Newark, N. J.	Boiler Feed Water Regulator
Allen Co., Geo. B.	Dallas	Boiler Feed Water Regulator
Amer. La France & Foamite Corp.	Utica, N. Y.	Fire Fighting Equipment
Amer. Spiral Pipe Wks.	Chicago	Forged Steel Welding Flanges
Amer. Radiator Co.	Chicago	Radiators
Amer. Hoist & Derrick Co.	St. Paul	Crane Hoists
Amer. Schaeffer & Budenburg Corp.	New York City	Boiler Safety Valve
Braden Steel & Winch Co.	Tulsa	R & B Winches
Buckeye Traction Ditcher Co.	Findlay, Ohio	Ditching Machines
Betson Plastic Fire Brick Co.	St. Louis	Refractories
Bassic Manufacturing Co.	Chicago	Alemite Lubricators
Bashlin Company	Warren, Pa.	Air Valves
Benjamin Electric Mfg. Co.	Chicago	Panel Boards and Cabinets
Braun & Co., C. F.	Alhambra, Calif.	Distillation & Heat Exch. Equip.
Buffalo Meter Co.	Buffalo, N. Y.	Water Meters
B. & A.Specialty Co.	Tulsa	Orifice Fittings
Brockman Mfg. Co., J. B.	St. Louis	Pipe Bends
Central Scientific Co.	Chicago	Laboratory Supplies
Camp Co., C. F.	Tulsa	Waukesha Motors
Consolidated Cement Co.	Kansas City, Mo.	Cement
Caterpillar Tractor Co.	Peoria, Ill.	Holt Tractors
Crouse Hinds Co.	Syracuse, N. Y.	Condulets
Crane Company	Chicago	Valves and Fittings
Crocker Wheeler Co.	New York City	Generators, D. C.
Cooper Company, C. & G.	Mt. Vernon, Ohio	Engines and Compressors
Chisholm Moore Mfg. Co.	Cleveland, Ohio	Trolley and Chain Hoists
Canedy-Otto Mfg. Co.	Chicago H'ts, Ill.	Drill Presses and Grinders
Crosby Steam Gage & Valve Co.	Boston	Pressure Gauges
Casey-Hedges Company	Chattanooga	Scotch Marine Boilers
Chicago Faucet Co.	Chicago	Faucets
Chicago Chemical Co.	Chicago	Chemicals
Durabla Mfg. Co.	New York City	Gauge Glasses
Dodge Manufacturing Co.	Mishawaka,Ind.	Line Shafting
Dresser Mfg. Co., S. R.	Bradford, Pa.	Anchorage Ells and Tees
Electrical Specialties, Inc.	Tulsa	Fittings for electrical conduit work; vapor-proof lighting units; generators and motors on cable.
Elliott Company	Kansas City, Mo.	Automatic Valves (boiler non-return)
Enberg Electrical & Mach. Wks.	St. Joseph, Mich.	Engine Generator Sets
Erie Malleable Iron Co.	Erie, Pa.	Kondu Fittings
Fairbanks Co.	New York City	Valves on Loading Racks
Fairbanks-Morse & Co.	Chicago	Motor-Driven Centrifugal, D. C.
Fisher Governor Co.	Marshalltown, Ia.	Liquid Level Controllers, Regulators
Foxboro Company	Foxboro, Mass.	Meters, Gauges, Thermometers, Controllers
Foos Engine Company	Springfield, Ohio	165 HP. Auxiliary Engines
Falls Clutch Company	Kent, Ohio	Belt Tighteners
Fluor Construction Co.	Los Angeles	Cooling Towers
Garlock Packing Co.	Palmyra, N. Y.	Metallic Packing
Gen. American Tank Car Corp.	Chicago	Tank Cars
Green Fire Brick Co., A. P.	Mexico, Mo.	Refractories
Gates Hardware Co.	Tulsa	Building Hardware
General Electric Co.	Schenectady, N. Y.	Motors and Switchboards
Graybar Electric Co.	Kansas City. Mo.	Electric Fixtures
Goulds Pumps, Inc.	Seneca Falls, N. Y.	Centrifugal Pumps
Gardner-Denver Co.	Quincy, Ill.	Pumps, Air Compressors
Graton-Knight Mfg. Co.	Worcester, Mass.	Belting
Gurley, W. & L. E.	Troy, N. Y.	Surveying Instruments
Hill-Hubbell & Co.	Tulsa	Paints
Hurley Brothers	Tulsa	Absorbers (Newton)
Hill Clutch, Machine & Foundry Co.	Cleveland	Clutches
Hudson Wire Co.	Tulsa	Fencing
Hughes Stone Co.	Tulsa	Crushed Stone
Hayward Company	New York City	Clam Shell Buckets
Ingersoll-Rand Company	New York City	Air Drills, Portable Compressors
Jackson Engineering & Equip't Co.	Tulsa	Cooling Towers (Fluor)
Johns-Manville Corp.	New York City	Insulation, Cut Gaskets, Gauge Boards
Koehring Company	Milwaukee	Concrete Mixers
Kansas Portland Cement Co.	Kansas City, Mo.	Cement
Lunkenheimer Company	Cincinnati	Needle Valves
Lee Mercantile Co., H. D.	Kansas City, Mo.	Uniforms
Landis Machine Co.	Waynesboro, Pa.	Pipe Machines
Linde Air Products Co.	Tulsa	Oxygen
Marble Head Lime Co.	Hannibal, Mo.	Lime
Mack Truck Co.	Tulsa	Trucks
Metric Metal Works	Buffalo, N. Y.	Meters
Merian Company	Cleveland	Manometers
Mid-West Chevrolet Co.	Tulsa	Fire Trucks
McCord Radiator & Mfg. Co.	Detroit	Lubricators
Mid-West Piping & Supply Co.	St. Louis	Pipe Bends
Moran Sheet Metal Co.	Tulsa	Meter Houses
Mount-Cooper Boiler & Iron Co.	Tulsa	Tanks, Stock
McLeod-Henry Company	Troy, N. Y.	Refractories
Mine Safety Appliance Co.	Pittsburgh	Gas Masks
Martin Wagon Company	Lufkin, Texas	8-Wheel Wagons
Nicholson Co., W. H.	Wilkes-Barre, Pa.	Steam Traps
Newton Process Mfg. Co.	Los Angeles	Absorbers
Nurnburg Thermometer Co.	New York City	Thermometers, Laboratory Supl's
Neilan-Schumacher & Co.	Los Angeles	Liquid Level Controllers
Nat'l Transit Pump & Machine Co.	Oil City, Pa.	Pipe Tongs
Norval & Dial, Inc.	Tulsa	Dodge Cars and Trucks
Oklahoma Gas & Electric Co.	Oklahoma City	Power
Oxweld Acetylene Co.	Long Island City	Welding Machines
Oklahoma Portland Cement Co.	Ada, Okla.	Cement
Oklahoma Material Co.	Dover, Okla.	Sand
Oklahoma Steel Casting Co.	Tulsa	Tank Castings
Patterson Steel Co.	Tulsa	Steel Buildings, Structural Steel
Penberthy Injector Co.	Detroit	Gauge Glass Connections
Pittsburgh Equitable Meter Co.	Pittsburgh	Regulators
Pyle-National Co.	Chicago	Flood Lights
Patterson Sargent Co.	New York City	Paints
Power Plant Equipment Co.	Kansas City, Mo.	Superheaters
Ridge Tool Co.	Elyria, Ohio	Pipe Wrenches
Rock Island Railroad	St. Louis	Transportation
Ryerson, Jos. T. & Sons, Inc.	Chicago	Structural Steel, Floor Plates
Rix Compressed Air & Drill Co.	San Francisco	Laboratory Compressors
Refinery Supply Co.	Tulsa	Laboratory Equipment
Robinson Orifice Fitting Co.	Los Angeles	Orifice Fittings
Russell Giant Grader	Cicero, Ill.	Road Graders
Smith Separator Co.	Tulsa	Victaulic Couplings, Separators
Shapleigh Hardware Co.	St. Louis	Building Hardware
Sinclair Refining Co.	Chicago	Lubricants
Southerland Lumber Co.	Seminole, Okla.	Lumber
Swartwout Company	Cleveland	Exhaust Heads, Separators
Sipes Company, Jasper	Oklahoma City	Laboratory Equipm't, Furniture
Strong, Carlisle & Hammond Co.	Cleveland	Gasoline Traps
Sherwin-Williams Co.	Cleveland	Paints
Stonehouse Steel Sign Co.	Denver	Metal Safety Signs
Soph Company, Ed.	Tulsa	Water Meters
Sheffield Steel Corp.	Kansas City, Mo.	Bolts
Standard Paving Co.	Tulsa	Stone
Splitdorf Magneto Co.	Newark, N. J.	Magnetos
Standard Steel Works	Kansas City, Mo.	Dump Bodies, Mack Trucks
Stitt Ignition Co.	Columbus, Ohio	Spark Plugs
Salvoy Process Company	Salvoy, N. Y.	Soda Ash
Toledo Pipe Threading Mach. Co.	Toledo	Hand Pipe Threading Machines
Troy Engine & Machine Co.	Troy, Pa.	Steam Engines
Taylor Instrument Companies	Rochester, N. Y.	Pressure Regulators, Controllers
Tulsa Boiler & Machine Co.	Tulsa	Accumulators, HP Air Tanks
Tulsa Sheet Metal Co.	Tulsa	Ventilators
Truscon Steel Co.	Youngstown, Ohio	Window Sash
Tnemec Paint Co.	Kansas City, Mo.	Floor Paints
Tulsa Rubber Stamp Co.	Tulsa	Rubber Stamps, Stencils, Car Seals
Tulsa Auto Spring Co.	Tulsa	Galvanized Iron
U. S. Rubber Company	New York City	Hose, Sheet Packing
U. S. Supply Company	Kansas City, Mo.	Fire Carts and Hose
United Iron Works, Inc.	Iola, Kans.	Cast Iron Pipe, Water Tanks
Union Carbide Co.	New York City	Carbide
Victaulic Company of America	New York City	Pipe Couplings
Walworth Company	New York City	Kewanee Unions
Westcott & Greis	Tulsa	Meters, Gauges
Wayne Tank & Pump Co.	Ft. Wayne, Ind.	Water Softeners
Wood Shovel & Tool Co.	Piqua, Ohio	Shovels and Spades
Williams Valve Co.	Cincinnati	Quick Opening Valves
Wisconsin Waste & Wiper Co.	Tulsa	Wiping Cloths
Warwood Tool Co.	Wheeling, W. Va.	Picks
Yates Laundry Mach. Co.	Kansas City, Mo.	Laundry Machines
Youngstown Sheet & Tube Co.	Youngstown, Ohio	Pipe

B & A GAS CO.

Again at plant No. 13 B & A *furnished*



the ROBINSON *Orifice* FITTINGS

ALWAYS when quality and service are essentials, B & A will be found on the job. Intelligent handling of the Oil Man's needs with accuracy and care has established the name B & A with the men whose time is money.

Robinson Orifice Fittings were chosen for this job because of the name they have won throughout the world for Efficiency and Accuracy. The only device of its kind, eliminates by pass around meter; saves time and money in initial set up, plates changed in a few minutes; orifice always centered in line; occupies little space with no hazard. Because of these features over 8,000 Robinsons are in use.

The Robinson Fitting is only one of a complete line of proven quality articles serving the Petroleum Industry. Others that the Gasoline Plant man will be interested in are:

Dexter Valve Reseating Machines
Kerlow Steel Flooring and Steps
Garrott Tank Car Fittings

Every product sold by B & A is guaranteed for highest quality and was added to the line *only* after complete tests proving unquestioned superiority.

The B & A Quality Line

Baker Casing Shoe Co.
West American Rubber Co.
Acme Fishing Tool Co.
Garrott Brass & Machine Co.
Dexter Valve Reseating Machines
Kerlow Steel Flooring
Robinson Orifice Fitting

We also carry a complete line of hoists, concrete mixers, wheelbarrows and woodworking machinery.

B & A SPECIALTY COMPANY
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TULSA, OKLAHOMA
708 Keystone Bldg., Houston, Texas

B&A Specialty Co

COMBINE GAS LIFT AND GASOLINE OPERATIONS

(Continued from Page S-7)

this equipment was found satisfactory. As the machinery is designed to operate fully loaded at the lower pressures, throttling devices on the suction for high-pressure operation have been resorted to.

"The application of the principle of compression for a two-fold purpose has resulted not only in economy of operation but has permitted the construction of large central plants as opposed to the construction of a number of smaller plants, with a corresponding further increase in operating efficiency and economy."

Position of Manufacturer

It is apparent that as long as the gas lift is being used in a field, all phases of the natural gasoline plant operation will be subordinated to the main requisite that the production department be supplied with high-pressure gas in the quantities needed for the flowing of wells. When one plant is serving several leases, this situation necessarily means that the gasoline extraction operation will not be uniform due to the varying quantities of gas available.

There also is the additional uncertainty as to how long the high-pressure gas will be needed for the gas lift. The latter being a new method in the production department, there are many possible developments in its application yet to be determined. The Seminole experience to date indicates that ultimately it will be necessary to drop the gas-lift operation and resort to pumping for lifting the oil. The time during which it is feasible to utilize the gas lift varies widely with the individual leases and wells.

The casinghead gas flow with a pumping well is only a small fraction of that obtainable with the gas lift, although its gasoline content is ordinarily greater. The reduction in gas supplies and the fact that high-pressure gas is no longer required will have a direct bearing on the equipment needed at the gasoline plants. This fact emphasizes the need for flexibility in plant construction.

In the Greater Seminole Field, the Sinclair company has two main plants with four additional booster plants, all manufacturing gasoline as well as serving gas-lift requirements. These plants have a combined production of approximately 250,000 gallons of finished gasoline, which is about 35 per cent of the entire output of the field.

In the following pages the main construction and operating features of the No. 13 plant are described. In connection with the description, attention is called to the several pages of photographs illustrating all the principal phases of the plant operation.

MAKE GASOLINE IN GAS LIFT OPERATION

(Continued from Page S-15)

pacity of approximately 1,800 gallons per minute.

The condenser water and other plant is handled by two larger towers which are not mounted on tanks. These towers have a combined capacity of 6,000 gallons per minute. All towers are made of California redwood.

Plant Shop

Adjoining the gasoline plant is the shop which takes the work for all the Sinclair operations in the Seminole area. This shop has complete equipment for field and plant work. It has two power units, one being a direct connected engine-generator set and the other a direct connected turbo-generator set. In addition the plant has steam engine air compressor.

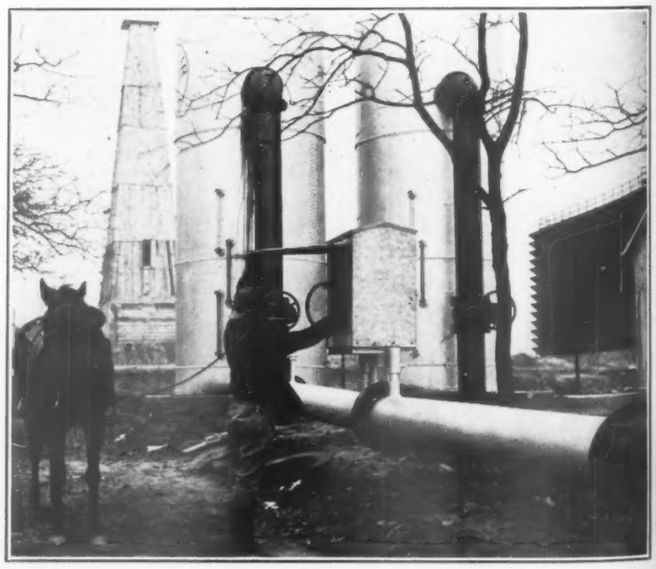
When the No. 13 plant was being built this shop did all the pipe and blacksmith work. Since the plant started operating most of the shop work is handled by a smaller maintenance shop which adjoins the main operating force for the gasoline plant. This shop has all the equipment needed for plant maintenance.

Gathering System

The gathering system covers an area of approximately 2,000 acres surrounding the plant. The fact that high pressure gas for the gas lift is furnished the leases owned by the Sinclair Oil & Gas Co. adds to the number of lines installed. Special care is necessary in the laying of these lines.

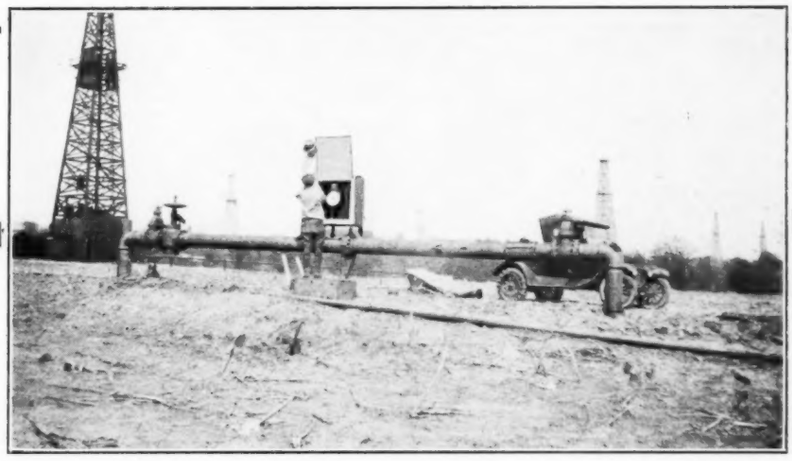
To the leases not owned by the Sinclair company the lean gas is returned in the usual manner. In most cases the owners of these leases have their own gas lift units. The quantity of gas required by these leases varies. The Sinclair management endeavors at all times to have sufficient gas available to supply the gas lift requirements.

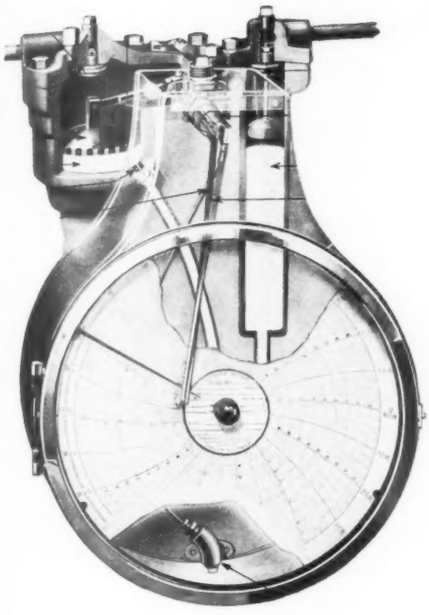
So far as the gathering system is concerned the use of the gas lift does not materially change the usual practice. The gas and oil from a well



Changing meter charts. Battery of scrubber tanks on gas intake line in background. One of the water cooling towers on right.

WESTCOTT *orifice* METERS





Manufactured
by
METRIC METAL WORKS
Erie Pennsylvania, U. S. A.

Measuring Casinghead Gas to Sinclair Plant No. 13

Illustration above shows one of the large number of WESTCOTT ORIFICE METERS measuring casinghead gas to the Sinclair Gasoline Plant No. 13, Seminole. This meter is exceptionally sturdy—ruggedly built to stand the gaff in field service. It is further characterized by extreme accuracy and by simplicity of operation and maintenance.

WESTCOTT & GREIS are distributors of a complete line of orifice and positive meters, gas regulators, gages, relief valves, etc., and provide specialized technical service in problems relating to the measurement and control of liquids and gases.

WESTCOTT & GREIS, INC.
DALLAS TULSA LOS ANGELES

WESTCOTT & GREIS
MEASUREMENT AND CONTROL

On

Sinclair Plant No. 13

at Seminole

The

Ventilators

Metal

Doors

&

Spouting

were furnished by

TULSA Sheet Metal *Company*

TULSA, OKLA.

13-15 S. Lansing

Phone 2-4401

generally discharge into an oil and gas separator. The gas is then removed from the separator in the same manner that it is obtained when a well is flowing naturally or is being pumped.

Second Plant

In addition to the 28 units at the gasoline plant, the Sinclair Oil & Gas Co. has a 12-unit compressor plant in the Bowlegs area. This unit in its operation is practically the same as the main plant operation. It also furnishes high pressure gas for flowing wells on Sinclair leases. The gasoline is extracted at the plant, the production at the present time averaging about 25,000 gallons daily. This gasoline is pumped direct to the No. 12 plant in the Seminole for treating and loading.

Although two compression plants are operated separately the gathering and residue lines are interconnected so that the field operations can be interchanged in any manner necessary to aid the two operations. The equipment used in the two plants is practically the same.

EXPERIENCED STAFF IN CHARGE OF PLANT

(Continued from Page S-32)

manship which makes for the maximum in plant efficiency.

Fire Department

Facilities for fire protection at the No. 13 gasoline plant include a fire engine, water hydrants and steam. The fire engine is unique in natural gasoline plant operations. The unit which was built by a well-known manufacturer of automobiles and light trucks carries complete equipment for fighting fires with water and chemicals.

The engine which furnishes the power for the truck also drives the pump of the fire fighting equipment. In case of fire the equipment is connected to the most convenient water hydrant. Powdered chemicals are mixed with the water by means of a specially designed mixer. This arrangement gives an unlimited supply of the chemical mixture used in fire fighting. Steam line connections are also provided at several points in the plant.

Community House

The community house for all employes of the Sinclair Oil & Gas Co. in the Bowlegs area adjoins the plant site. This building is the center of all social activities for that particular section of the field.

At the community house, regular monthly meetings are held under the direction of the safety department of the Sinclair company. These meetings are attended by all company employes. Films are often shown relating to the general subjects of safety. Oil field safety problems are discussed and every effort is made to secure the cooperation of the men in reducing accidents. Comparative data taken from the records of the company show that this safety program has justified the expenditures made.

RULES OF SINCLAIR GASOLINE DEPARTMENT

(Continued from Page S-32)

biles are permitted inside the plant fence or buildings.

19. No persons except officers and employes of this company and Federal and State officials or inspectors provided with properly signed and sealed identification cards are permitted inside the plant without a permit from the Tulsa office. All persons not employes of the gasoline department must fill out and sign the "visitors application and agreement."

OPERATING THE OIL ABSORPTION PLANT

(Continued from Page S-25)

folded so that any one of the three can be connected to any service. One pump is used to pump the hot engine and compressor cooling water to the cooling towers. The cooling towers are mounted on 5,000-bbl. tanks. The water from the cooling tower drops into the tank which furnishes a gravity feed to the engines and compressors. This method has been found to reduce pumping expense and at the same time give the desired results in engine and compressor cooling.

The second pump circulates water for the gas coolers and the condensers. This main water circulation is supplemented with two motor-driven centrifugal pumps located in another pump house. These pumps also circulate water for the gas coolers of the compression plant operation.

A constant pressure of 250 pounds is maintained in four air storage tanks located in the auxiliary room. This pressure is maintained for starting the engines. The air compressor is motor driven with provision made for connecting to the line shaft in the event the motor is shut down.

Boiler Room

To many, the most interesting feature of the Sinclair's No. 13 plant would be the boiler room. This building adjoins the auxiliary room which in turn connects to the engine room. The total length of the three buildings is 768 feet.

The Sinclair management has installed the marine-type boilers in all its recent installations. Low installation and maintenance costs and compactness are claimed for this type boiler coupled with a high steaming rate. At the No. 13 plant the company has installed five 100-horsepower Casey-Hedge boilers of the Scotch-marine type with auxiliary Dutch ovens.

Here again the operation is practically automatic. The feed water is preheated by the steam from the preheating units of the oil distillation operation. A constant level is maintained in the feed tank. The feed water consists of condensed steam from various parts of the plant operation supplemented by water treated by the zeolite method.

All the boilers are fed from one pump, automatic controls maintaining a constant water level in each boiler. Meters measure the water fed to each boiler. The boilers are fired automatically, the operator at no time making an adjustment of the burners. The burners are regulated by back pressure control instruments connected to steam header. The value of this arrangement is apparent from the operating data which show that the steam pressure does not vary a pound in a 24-hour period. This arrangement is not disturbed when one of the boilers is taken out of service. Back pressure regulation automatically maintains a constant pressure on the water feed line supplying the boilers.

Boilers are blown down at regular intervals. A check is maintained on this operation by means of a recording pressure gauge which is hooked directly to the blow-off header. Equipment for the chemical treatment of the zeolite completes the boiler house equipment.

Superheaters

The boilers are equipped with superheaters to furnish superheated steam. These superheater coils are located on the steam line connecting each boiler to the main steam line. The flue gases from the boilers are used as the heating medium for the superheaters.

Water Supply

An adequate supply of soft water is furnished the plants and booster stations from a centralized pumping station. The bulk of the water is drawn from the Little River but numerous wells have been drilled and equipped to augment the river supply during periods of dry weather. The water is first run to the mixing tanks where the raw water is given a lime-soda ash treatment. Sodium aluminate is also added to act as a coagulant for the fine suspension of mud and sand.

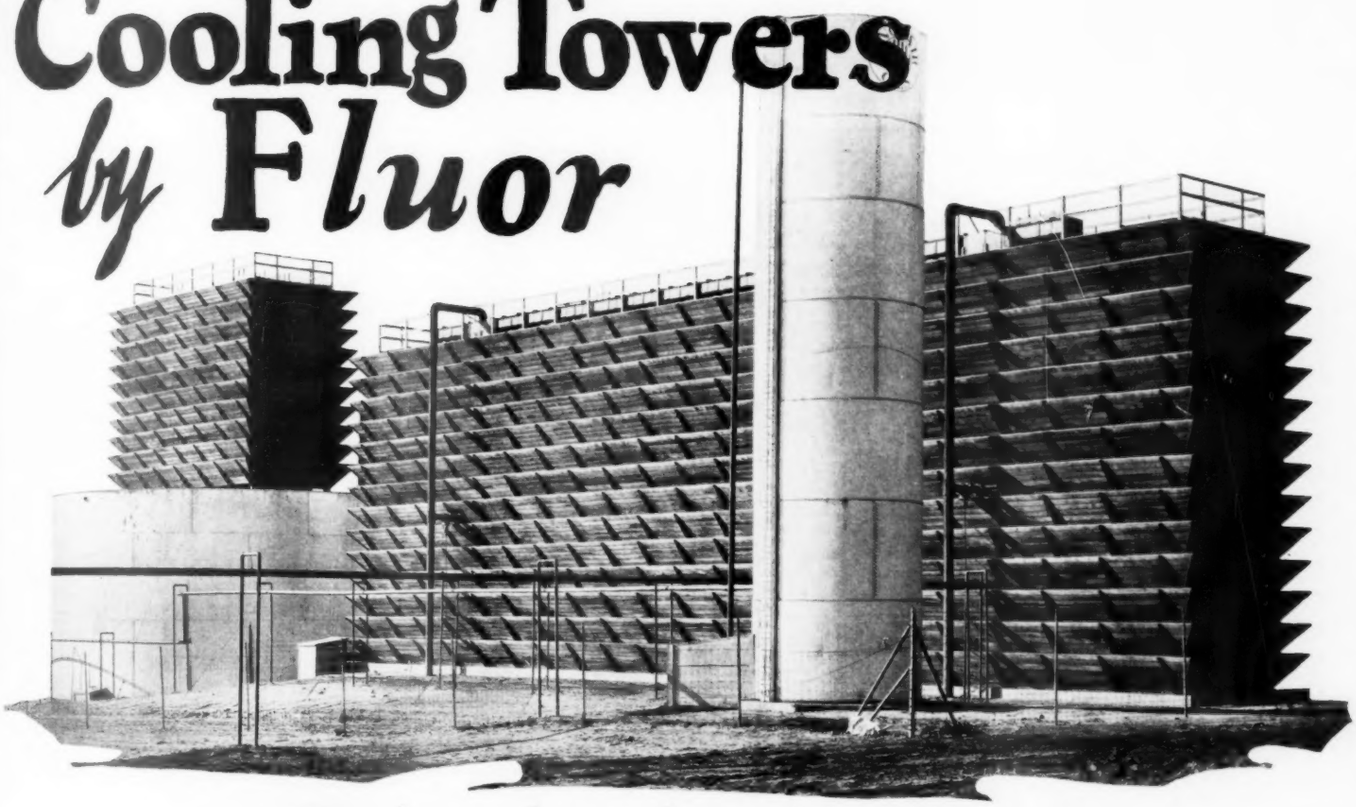
While the water is not particularly hard to treat from the standpoint of excessive amounts of soluble salts, it is very turbid and a rather heavy sludge precipitates out after the treatment.

This treated water is used for the general field practices but is run through a zeolitic softener before being used in the gasoline plants. Three zeolitic softeners are in use, one at each of the plants in the field. This treatment renders the water practically free of emulsion and scale-forming impurities and helps to decrease the time of cleaning. It also insures smoother operation.

The zeolitic unit consists of a specially constructed tank nearly filled with the active material through which the water percolates. This material is revivified from time to time by stopping the flow of raw water and passing salt water through the tank. The active material is in the form of a uniformly ground white silicate similar to white sand in appearance. It has the property of adsorbing and chemically uniting with the salts in the water causing hardness and until exhausted will continue to remove these as raw water is supplied. After the mineral has been exhausted, an ordinary salt solution is circulated through the tank for a few hours and the softener is again ready to function.

Safety in the cleaning of tank cars.

Cooling Towers *by Fluor*



Throughout the entire petroleum industry Fluor Cooling Towers are the accepted standard for economy and efficiency.

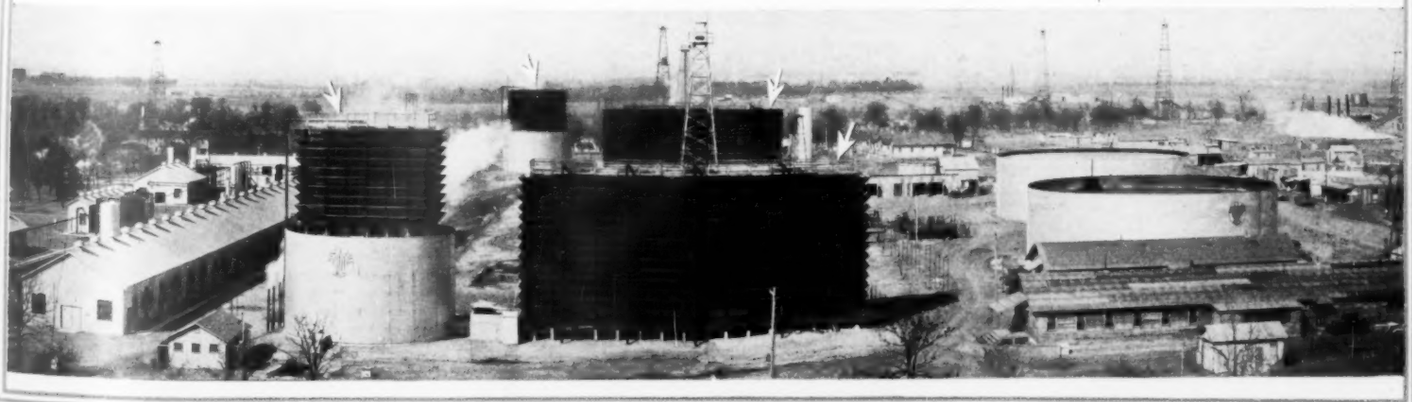
JACKSON ENGINEERING & EQUIPMENT CO.
909 East 59th Street, Los Angeles, California

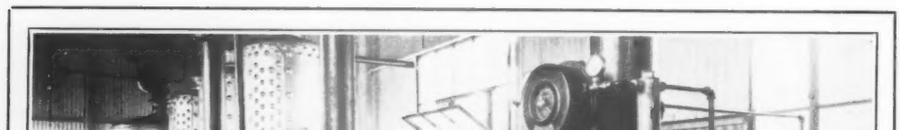
502 National Bank of Commerce Building Tulsa, Oklahoma

707 Dallas National Bank Building Dallas, Texas

FLUOR REDWOOD COOLING TOWERS

Sinclair Oil & Gas Company, Plant No. 13, Seminole, Oklahoma
COOLED BY FLUOR





AT LEFT — "Tycos" Singl-Duty Pressure Regulators holding constant back pressure on battery of accumulator tanks.

BELOW — "Tycos" Singl-Duty Pressure Regulators controlling pressures in receiving tanks, re-run still and surge tanks.

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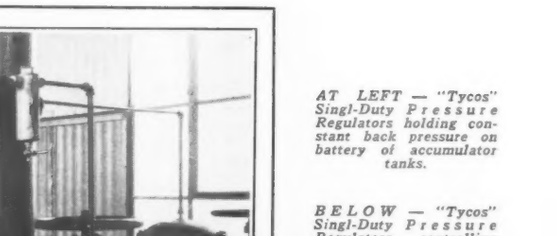

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1. Automatically controlling temperature in gasoline vent tank.

CANADIAN FIELDS

(Continued from Page 51)

representing the Southern Alberta interests. The Dalhousie Oil Co. capitalization consists of 3,000,000 no par shares; the stock till recently has been selling between $1.70 and $2.60, but following the strike rapidly jumped to $4.12. The company has a light crude production in its No. 5 well, and No. 6 is drilling close to the lime. Development has been financed so far by the Royalite Oil Co. out of earnings from its own Turner Valley production.

Got Wet Gas Flow

Royalite Oil Co 's No. 8, LSD 9, Section 12-20-3w5, offsetting the New McDougall-Segur producers, got a wet gas flow on top of the Madison lime at 3,676 feet, and is running 6¼-inch casing. The wet gas flow is the largest yet struck on top of the lime, but the exact amount is uncertain owing to pressure of rotary mud. Royalite Oil Co 's No. 6, LSD 16, Section 31-10-2w5, is thought to have got the top of the Lime at 4,280 feet; the test is reaming with Hughes bit. Royalite No. 9, LSD 6, Section 13-20-3w5, is at 3,920 feet and drilling. Royalite No. 10, NE Section 12-20-3w5, is in shallow production at 2,332 feet. Royalite No. 11, LSD 10, Section 12-20-3w5, is drilling at 1,474 feet.

Dalhousie Oil Co.'s No. 5, LSD 16, Section 30-19-2w5, is producing at 4,900 feet. Dalhousie No. 6, LSD 10, Section 13-20-3w5, is at 4,813 feet and drilling.

Foothills Oil & Gas Co.'s No. 1, SW Section 26-20-3w5, is at 3,498 feet and sidetracking lost tools Foothills No. 2, LSD 8, Section 1-20-3w5, is at 2,145 feet and drilling.

Home Oil Co 's No. 2, LSD 14, Section 20-19-2w5, is drilling at 3,675 feet. Home No. 3, same LSD, is at 184 feet and rebuilding a burned derrick.

May Make 100 Bb's.

Spooner Oils No. 1, LSD 12, Section 13-20-3w5, is reported at 4,930 feet and frozen in the producing horizon of the Madison limestone. Considerable gas is coming from the upper horizons, with around 500 pounds pressure. The well has a production of 67.7 crude naphtha. The tools have been got out, and the drillers are waiting for the well to thaw itself; it is expected to make 100 bbls. a day or better. Vulcan Oils No. 2, LSD 11, Section 13-20-3w5, is at 4,866 feet and drilling up a lost bailer.

Illinois-Alberta Oils No. 1, LSD 14, Section 12-20-3w5, for the week ending March 10 averaged 99.9 bbls. of crude naphtha per day. Illinois-Alberta No. 2, same LSD, is at 1,638 feet and drilling.

British Dominion Oil Development Corp., LSD 4, Section 5-20-2w5, is drilling at 6,515 feet with the deepest test in the field. The 6-inch casing is being carried down behind the tools.

Stockmen Oils No. 1, LSD 1-2, Section 27-20-3w5, in the north end of the field, has run and cemented 4-inch casing to take care of the wet gas production at 1,760 feet. Production is estimated at 3,000,000 feet a day, though no figures have yet been given out on the potential crude naphtha recovery. The crew is pulling the 15½-inch and 20-inch casing.

Calmont Oils, LSD 2, Section 1-20-3w5, is reported to have resumed drilling at 5,191 feet after repairing boiler and installing a new cable. This is the third deepest test in the Turner Valley Field being outdistanced only by British Dominion, drilling at 6,515 feet, and Great West No. 1, shut down at 5,370 feet with a fishing job.

McLeod Oil Co 's No. 4, LSD 16, Section 1-20-3w5, has spudded in. McLeod Oil Co.'s No. 1, same LSD, is reported making 145 bbls. a day of crude naphtha from the deep lime at 3,915 feet.

Okalta Oils' No. 1, LSD 1, Section 1-20-3w5, is reported drilling around 4,700 feet. At the annual meeting of the shareholders, held at Calgary recently, John I. McFarland, president of the company, stated that the drillers expected to reach the deep lime at around 5,000 feet. Some oil was met at 3,265 feet, and a production of around 15 bbls. of light gravity crude at 3,650 feet. This was not regarded as a commercial proposition and the test is now being deepened for Madison production. Okalta No. 2, LSD 8, same section, is pumping from the Blairmore-Dakota horizon at 2,774 feet and reported to be making 10 bbls. a day; it may be carried to the deep lime after No. 1 is finished. Officers elected were: President, John I. McFarland, vice president, W. S Herron; secretary, Fred Whitaker; directors, R. W. Ward, H. K. Reid, Eric Harvey, J. W. Davidson, H. L. Fenerty, J. D. Pugh, C. J. Harden. The shareholders approved a proposal to split the $100 preference shares into $5 preferred shares; and to subdivide the no par common shares in the same proportion.

Regent Oil Co., LSD 16, Section 1-20-3w5, has resumed drilling at 2,475 feet.

In the Highwood district, southern foothills, Imperial Oil, Ltd., Highwood No 1, LSD 3, Section 36-18-3w5, is still working on a crooked hole at 3,624 feet.

Moose Mountain

In the Moose Mountain district, west of Calgary, Signal Hill Oil Co.'s No. 2 LSD 9, Section 34-23-5w5, is at 1,847 feet and running 8¼-inch casing. Additional casing is being hauled to the location. The log closely corresponds to those of Moose Mountain Oil Co.'s Nos. 1 and 2 wells, drilled at the time of the Calgary boom, and in which good oil showings were met at comparatively shallow depth. Signal Hill No. 2 is apparently a little shallower, and should get the producing horizon of the Moose Mountain wells early in April.

On the Morley Indian Reserve, Wabash Oils is reported drilling around 1,000 feet, after cementing casing at 973 feet to overcome a short stretch of caving.

In the Pincher Creek district, southwestern Alberta, Alberta Gas & Fuel Co.'s No. 1 Doherty, Section 34-2-29w4, near Hillspring, is reported at 600 feet, and drilling. The contract calls for a maximum depth of 6,000 feet, and with a heavy duty outfit the drillers expect to make this depth by October, unless production is encountered before then. Operations have been carried on through the winter, the rig being closed in and the entire plant, including the derrick, steam-heated and electric lighted. L. M. Farish, who is in charge of operations, has located Alberta Gas & Fuel Co 's No. 2, about 6 miles south of Pincher Creek, near the Thibaudeau ranch, and is now in New York in connection with the drilling contract.

Skiff Field

In the Skiff Field, Devenish Petroleum's No. 1, LSD 5, Section 27-5-14w4, has resumed pumping after a temporary shut-down. A water seepage from the Madison limestone has been plugged off, and no more trouble is anticipated from that source. Further development work under the Imperial-Devenish program will be started some time in April, depending on weather and road conditions.

In the Border fields, southern Alberta, Gas Production & Transportation, Ltd., NE Section 24-4-18w4, is reported again drilling at 3,230 feet, the 8¼-inch casing being carried down with the bit. The formation is showing some changes, and the test is thought to be nearing the potential producing horizon. Some acreage on the Alberta boundary north of the Flat Coulee well was put up recently at the Lethbridge land office, and bid in by Lethbridge and Calgary men.

South of the boundary, the Sunburst Oil & Refining Co.'s Flat Coulee well is reported temporarily plugged by caving shales, apparently forced into the hole by gas pressure from the Ellis sand member. Efforts will be made to drown the gas flow by lubricating, in order to drill out the plug. The casing is reported to have parted about 150 feet below the surface, while the shale plug is at 2,500 feet. Some 200 bbls. of oil are reported to have been blown out of the hole with the gas.

In the Chin district, north of Conrad and southeast of Coaldale, a Toronto group is reported to be arranging for a test on a new structure blanketed last summer by G. M. Cormie and associates of Vancouver, British Columbia. The

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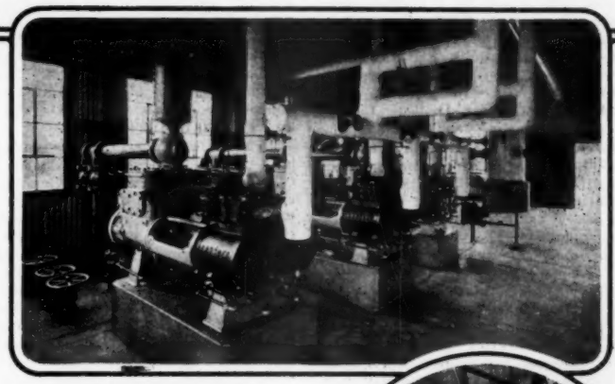

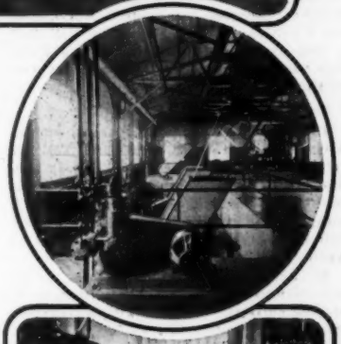

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structure is thought to be a northerly extension of the Skiff Field

Some 10,000 acres were, it is understood, blanketed in this district in the name of the Jurassic Syndicate, including acreage in Township 8-18w-4. Lethalta Oils, Ltd., has been incorporated by Ontario and Quebec interests, and a portion of the Jurassic acreage will be turned over to this company for drilling a test well. The leases are in the vicinity of Chin Station and at the northwestern end of Chin Coulee. Lethalta Oils will start a rotary test on the acreage about April 15, the contract being handled by an Edmonton firm. The company is reported fully financed for its test.

A structure near Castor, Alberta, will be tested this season by a Calgary syndicate which controls 3,200 acres. Russell Johnson, of Calgary, has located a test for the syndicate in SE Section 2-38-14w4. The structure is fairly close to the town of Castor. In 1913 the town secured the Northwest Drilling Co. of Calgary to put down a test for gas on the fair grounds, and at 1,430 feet some gas with 300 pounds pressure was encountered, with traces of oil. When drilling was continued the drillers ran into water under heavy pressure and the well had to be abandoned. The new location is at some distance from the Castor municipal well.

In the Viking Field casing is being hauled for the Hudson's Bay-Marland Oil Co.'s No. 1 deep test, and work will be started on the derrick as soon as the weather becomes favorable. Northwestern Utilities, Ltd , of Edmonton will drill a new test for gas in the Viking Field this season, and will also clean out two of the present producing gassers.

Drilling Plans

In the Wainwright Field, east central Alberta, Saska-Wainwright Oils, Ltd., is getting ready for a test in LSD 1, Section 19-45-6w4, about a mile south of British Petroleums' No. 3-B producer. A rotary outfit will be used, and the test will probably spud in toward the end of April.

In Saskatchewan, the coming spring will witness a considerable resumption of drilling activity. In northwest Saskatchewan, Unity Valley Oil Co.'s No. 1, SE Section 23-41-24w3, near Vera, is down 2,925 feet. This test in 1926 got a show of gas at 1,150 feet, and also a small show of oil; it was deepened for larger oil production but apparently has not gone far enough to get conclusive results. It may resume drilling this season, though only a little work was done last year.

Near Kenaston, the Big Six Oil Co. of Saskatoon, which has some production in Montana, last fall started No. 3 test in LSD 16, Section 18-20-2w3. After the winter shut down, the test will resume this spring at 81 feet, and should be carried to conclusive depth this season.

It is reported that the Canadian Western Natural Gas Co. of Calgary, or allied interests, will drill this season for gas at a point some 40 miles south of Saskatoon, with a view to developing production to supply Saskatoon and possibly Moose Jaw and Regina. Some core drilling is reported to have been done last year, defining a favorable structure.

Near Readlyn, the Ribstone-Wainwright Syndicate has a test shut down at 400 feet, which will resume drilling this spring. In the Rosetown district, the Rosetown Syndicate's No. 1 Herschell, LSD 13, Section 4-31-17w3, was cemented at 225 feet last fall, and will be drilled deeper this season.

The Prudential Oil Co. of Moose Jaw, Saskatoon, is planning a drilling program to start this spring, in charge of H. M. B. Inglis, petroleum technologist, of Calgary.

In the Simpson district, Simpson Oil Co., Section 9-29-25w2, will resume drilling early in April; the test was shut down last fall at 1,400 feet, after reporting some indications of oil. In the Riverhurst district, Riverhurst Oil & Gas Co., a local enterprise, has what looks like a small commercial production of gas at 518 feet depth. This production may be used locally, and additional wells drilled.

Ontario Fields

In the Ontario Fields, the Vacuum Gas & Oil Co. of Toronto has made a new location in Middleton Township, Norfolk County not far from Tillsonburg. Some production was secured in this area two years ago by the Medina Natural Gas Co and the Dominion Natural Gas Co. The Vacuum test is now rigging up, and will likely spud in before the end of March. It will be a test of the Clinton sand at 1,300 feet.

A monthly review published by the Canadian Pacific Railway gives a survey of oil production and development in Canada in 1927. The survey is in part as follows:

"Canadian petroleum production is rising, mainly due to the steady advance being made by the Alberta Field. The preliminary estimate of the Dominion output in 1927 is 495,000 bbls. with a value of $1,583,000, compared with 364,444 bbls. worth $1,311,665 in 1926 and 332,001 bbls. worth $1,250,705 in 1925. This record production of Canada of nearly 500,000 bbls. compares with 198,000 in 1916 and 170,000 in 1923.

"The main factor in this ascension has been the development of the Alberta Field, though in 1927 New Brunswick featured rather remarkably, accounting for three times the output of 1925. Ontario in the first half of 1927 produced 60,177 bbls., and New Brunswick 15,590 bbls. Alberta's production for the year, which was 217,088 bbls. in 1926, or 60 per cent of the Dominion total, increased in 1927 by more than 112,000 bbls., or over 60 per cent, and represented 66.6 jer cent of the Dominion's aggregate output.

"It is estimated that production in Alberta in 1927 consisted of 288,500 bbls. of casinghead gasoline, 36,950 bbls. of light crude oil, and 3,817 bbls. of heavy crude oil, a total of 329,267 bbls. The casinghead gasoline and the light crude oil were from the Turner Valley wells, and the heavy crude oil from Wainwright and Devenish wells. The value of this oil at current market prices was estimated at apprroximately $1,253,242, or more than 72 per cent of the total Dominion value. The difference between this figure and the proportion of production is explained by the fact that the Alberta product realizes a higher price.

"The year 1927 was outstanding as increasing production, stimulating interest and witnessing the entry of new important interests into the development field. Development work was undertaken during the year on 56 wells in Alberta, 18 of which were in the Turner Valley, 5 at Wainwright and 21 in other fields of the province. At present work is proceeding on 18 wells in the Turner Valley. During the year 8 commercial producers were completed in Alberta, viz., McLeod Nos. 2 and 3, New McDougall-Segur Nos. 1 and 2, Home No. 1, Devinish, Dalhousie Nos. 5 and Royalite No. 7. Seven of these are in the Turner Valley. The strike made at the Devenish well (in the Skiff Field) was one of the year's outstanding developments as it proved tens of thousands of acres and resulted in concentration on that section.

"With the opening of another year, oil operators in Alberta have formulated plans for the greatest year of development in the history of the industry in this province. All the companies plan intensive operations, the Imperial leading with a program calling for 10 wells."

Alberta Pipe Line Bill

The Alberta pipe line act is being amended by adding a clause to enable oil companies to expropriate right of way across private lands for oil pipe lines. Under existing legislation, such provision is already made with respect to natural gas lines.

CALIFORNIA FIELDS

(Continued from Page 52)

has just been brought in by the Shell and it is showing up in good shape, the output during the initial 24 hours being officially gauged at 2,214 bbls., the oil being clean and testing 28.6 degrees. This well, completed at 6,402 feet, is making a little less than 2,000,000 feet of wet gas daily in addition to the oil run. The Shell company has a number of other wells in this field which should be completed within 30 days and the crews from these projects will be immediately transferred to other wells as it is the present intention to prosecute a continuous drilling program. The Shell's No. 4 Martin is one of the most interesting projects in this field at present and while it is still in the oil sand at 6,700 feet and therefore assured of big production it will be drilled ahead as a deep test until adverse formations are encountered.

George F. Getty and the General Petroleum Corp. both have a number of potential producers under way and the production of each should show a substantial increase within a month. The Richfield Oil Co., which has listed a number of prolific producers during the past 60 days, will probably not be in a position to chalk up any additional completions for another month but if normal footage is made the company should finish five or six new wells during the latter part of April. The Richfield recently acquired the Connett property in anticipation of a possible extension of the Long Beach Field but this lease, located in the extreme eastern end of the structure, will not be developed immediately as the Richfield has six months to begin drilling operations. The Shell originally held the Connett property but abandoned it after drilling a deep dry hole.

Ventura Avenue

Development work in the Ventura Avenue Field will not be curtailed as a result of the conservation movement instituted two weeks ago although the production of new wells will be regulated in accordance with a set of rules especially prepared for this purpose. When a new well is finished it will be allowed to remain on production for 30 days and its future output will be governed by its production during the last three days of this flow test. There are 27 drilling projects under way in the Ventura Avenue Field and about 15 should be completed within 60 or 90 days. It is possible that the production of these new wells will offset a large part of the 10,450 bbls. recently curtailed, and it would not be at all surprising if this field was again doing better than 50,000 bbls. per day before the close of May. The Associated succeeded in finishing No. 51 Lloyd early in the week and this new producer registered an initial roduction of 1,725 bbls. of clean 29.9 gravity oil and 1,600,000 feet of wet gas daily from an even 7,100 feet. If the Associated contemplates carrying its new wells in this field down to the 7,000-foot level before completing them it will probably be another 60 days before any additional completions are chalked up but if some are finished around 6,000 feet the company may be expected to increase its production from time to time.

The Petroleum Securities has just completed No. 3 Willett at 7,023 feet and it is flowing at the rate of 1,100 bbls. per day. The output has not yet entirely cleaned up but is expected to do so withing 24 hours. Nos. 1 and 2 on the Orton lease have recently been killed and both will be deepened to around the 7,000-foot level to stimulate production. The Petroleum Securities is running four strings of tools on this lease in the extreme southern part of the field and while all are below 5,000 feet it will probably be a month before any of this quartet is in a position to make a bid for production. The Shell has just put the finishing touches on No. 16 Edison at 7,157 feet and this new producer, finished with a 5⅞-inch oil string, will be tanking oil probably tomorrw morning. No. 24 Gosnell will also be completed soon as the bit was rotating ahead in this hole a few daye ago at 6,950 feet. On the Taylor property the Shell's next completion should be No. 24, which recently passed the 6,000-foot level. The General Petroleum has the makings of what looks like a good producer in No. 2 Hisey at 6,887 feet and this well is showing so much kick that extra precautions have been taken to prevent it from getting loose.

Rincon

The Miley Oil Co. got its first production in the Rincon Field of Ventura County by completing No. 3 Hobson as a 1,400-bbl. producer from 3,099 feet, the hole having been plugged back from 3,132 feet. This new well, finished during early in the week, is producing from a 28-foot oil sand. No. 3 Hobson is the first well in this field to test out the 3,100-foot zone, the other three producers being finished shallower, and while this project showed favorable production the relatively small amount of sand present practically removes this horizon from consideration as it is not capable of sustaining intensive drilling such as has characterized operations along the ocean front. It is likely that some of the other operators will temporarily produce from this new Miley zone until something better is proven. The Pan American, which is drilling a deep test, passed the 3,800-foot level a few days ago in No. 2 State and this well should be watched very closely as it is the unofficial deep test for this area, the other operators marking time pending further developments. The Shell has temporarily suspended work on its No. 1 Bailard in the extreme western part of the field and the company's extension of time is a timely one as this location appears to be an exceptionally wild one in view of the limited results attained to date in this field.

Kern River

Although operators have not yet succeeded in curtailing production out along the West Front of the Kern River Field there has been a very marked tendency to reduce drilling operations during the past few weeks and while several additional new wells are being prepared for early spuds the projected work at present is unusually small compared with the scope of drilling heretofore undertaken in this district. The California Petroleum has just finished two new producers, both being in Section 14-28-27. No. 2, carried down to 2,065 feet, registered an initial daily pumping of 130 bbls., while No. 3, completed at 2,036 feet, started off pumping 148 bbls. of relatively clean 14.4 gravity oil per day. The property upon which these two new wells are located is a Government lease covering 80 acres, acquired about six months ago. The California Petroleum will probably suspend further development of this lease indefinitely if producing wells on adjoining property are shut in as a result of the movement to reduce the production of heavy oil, but if offsetting leases continue to produce the company will be obliged to spud in 10 or 15 new wells. The California Petroleum's property is being drained on four sides by the General Petroleum, George F. Getty and the Wonder Oil Co., but this condition will not continue indefinitely as these wells will be offset immediately if work in this field continues unabated.

The Associated finished No. 4 in Section 23-28-27 at 2,370 feet a few days ago and this new well came in pumping 122 bbls. of 14.5 gravity oil. The California Star chalked up a new well in the adjoining section when No. 340 in Section 22-28-27 was completed as a 122-bbl. pumper from 2,557 feet. The Standard's No. 14 in Section 27-28-27 registered an initial of 142 bbls. daily when put on the beam yesterday at 2,387 feet. The Brownmoor Oil Co., which will have No. 12-A Cauley on production soon, has awarded a contract to the Barham Drilling Co. covering 10 additional wells and this property, recently acquired on a sublease from the Marland Oil Co., will be developed immediately unless operators get together and temporarily suspend operations. The Signal Gasoline Co. completed its initial well in the Granite Canyon section of the Mount Poso Field a few days ago and this project, in Section 27-27-28, adjoining the Union Oil Co.'s Tribe lease, showed a potentiality of 400 bbls. daily from 1,638 feet. This new well, like the other three producers finished in this section, has been shut in because of the absence of pipe line facilities. The General Petroleum spudded in No. 7 Glide several days ago which, like Nos. 1 and 9 previously finished on the same property, will be drilled into completion and immediately shut in.

Midway-Sunset

The Republic Petroleum Co.'s No. 38

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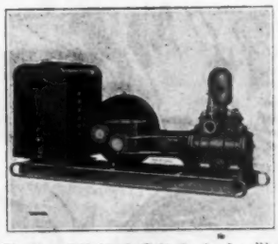

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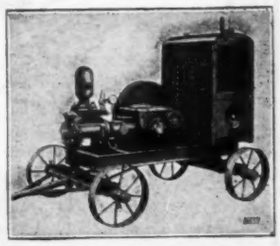

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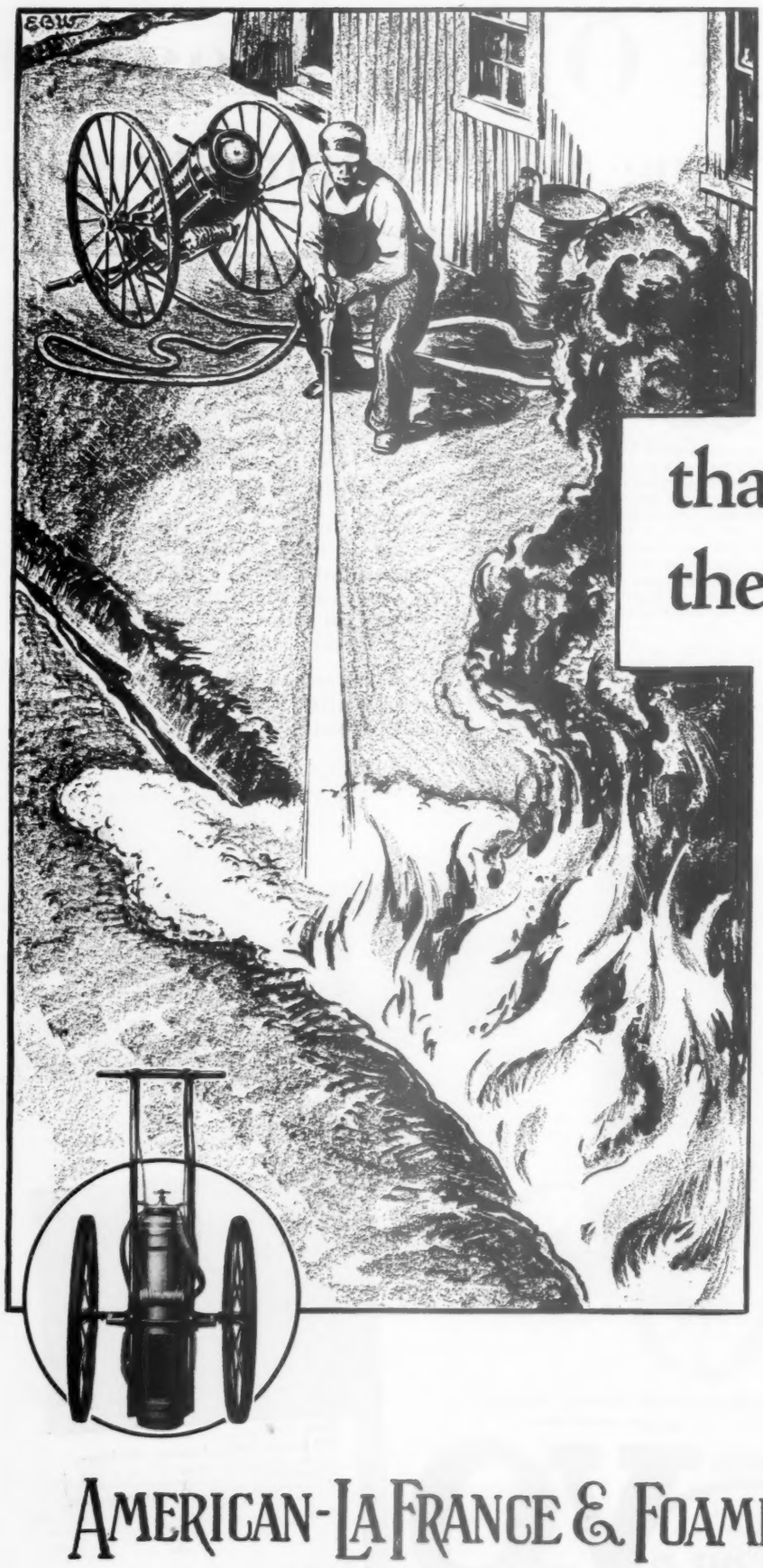

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in the Midway-Sunset Field, brought in a few weeks ago flowing 1,061 bbls. per day from the 2,704-foot level after being redrilled and deepened from 800 feet, is holding up in good shape and preparations are being made to spud in No. 31, a new well in Section 7-32-23. Rig construction for this project is already under way and it will probably be making hole within two weeks. The completion of the Republic's No. 25 in Section 8-32-23 as a large flowing well was extremely fortunate and timely. The Republic company controls 830 acres in one block adjacent to the new well and if the oil sand found in No. 25 is general throughout the area and not lenticular, as was the case with the Obispo's sand, the company's financial troubles are over. The Standard Gasoline Co. has just run a line over to the Republic's new well and the 700,000 feet of gas produced daily will be treated at the former's plant at Fellows. The natural gas produced by No. 25 averages a little better than 2 gallons of casinghead to each 1,000 feet of gas treated. The Chanslor-Canfield Midway Oil Co. is sidetracking the 8¼-inch in its No. 29 in Section 8-32-23 and this former producer from the 935-foot level will be deepened immediately in an effort to develop production from the same horizon picked up by the Republic. The Standard recompleted No. 4 Rass out in the Maricopa Flats area of the Midway-Sunset Field several days ago but this project, located in Section 10-11-23, has proven a distinct disappointment as it is only doing 50 bbls. per day from the 5,450-foot level.

Seal Beach

The past week was a rather uneventful one in the Seal Beach Field but this district may come into the limelight within a few months if the Bonner zone comes up to expectations. With the exception of the Richfield Oil Co., the Marland is the only concern which has succeeded in developing commercial production in the deep zone below the 6,000-foot level but George F. Getty and the Petroleum Securities should be in a position to test out the productivity of this lower horizon within a few weeks. George F. Getty, who started to make a deep test in the Santa Fe Springs Field a few weeks ago only to suspend work later, has plugged back from 5,215 feet to 4,450 feet and this project, No. 10 Mitchell, will be completed in the Meyer zone. Getty has not given up the idea of conducting a deep test in search of another horizon below the Meyer zone entirely but this work will be delayed until conditions improve as this might have resulted in another town lot deepening campaign. The Shell should finish another new producer in the Brea Olinda Field some time within two or three weeks and if No. 14 Orange comes up to expectations it should result in substantial production. The Union is preparing several wells in the Richfield district for completion and two or three of them may be on propduction within 10 days. The Standard has started constructing two new rigs, Nos. 41 and 42, on the Emery property in the West Coyote Field.

The Petroleum Securities recently acquired the McNally property adjoining the Standard's Emery lease in this field and material is being moved in for the first well. The Petroleum Securities abandoned its No. 1 Connolly, northeast of the Associated's No. 1 Cypress at Potrero, and this equipment will be used in the drilling of No. 1 McNally. The property acquired by the Petroleum Securities has considerable merit and although gusher production can not be anticipated in the upper zone the company may secure favorable production in the lower horizon The Standard has a line of pumpers offsetting the McNally property, all producing from the first or upper zone. The Standard has actually proven up a second horizon in this field, two wells having been completed several years ago. The two deep producers in question are approximately 2,000 feet apart and with a lower horizon actually proven up it is possible the Petroleum Securities may develop deep production as it is logical to assume that the second horizon should be larger in area than the upper.

Northern California Wildcats

Two wells in the northern part of the State picked up minor showings of oil and gas during the past week and while neither is assured of production the outlook may be considered favorable. One is the Scott Petroleum Co.'s wildcat in the Rincon Creek area of Ventura County north of the Rincon Field and a production test will probably be made within two weeks. This well has had several showings heretofore but none was of sufficient importance to warrant expectation of developing production, although Vice President J. M. Queen is very optimistic over the outlook and expects to get production. The Scott Petroleum's wildcat is near the Ventura and Santa Barbara County lines and while the derrick is situated in Ventura County its shadow falls over into Santa Barbara County. The showings to be tested out are between 3,850-81 feet and while production is not assured the outlook is favorable. The company drilling this wildcat controls 300 acres of the Bates estate, located in Casitas Pass on both sides of Rincon Creek.

The second well in northern California to show favorable indications during the week was J. E. O'Donnell's wildcat in the Greenfield area, 4 or 5 miles south of Bakersfield in Kern County. This project will not be given a test at present but drilling will be resumed to determine the importance of the showings. The bit ran into a heavy gas accumulation at 1,925 feet a few days ago and while gas under heavy pressure blew out through the drill pipe for several hours no damage resulted. It is the intention to core this hole solid for several hundred feet as the showings logged may be the forerunner of a saturated sand which may prove of considerable importance. The Pacific Eastern has landed a string of 9-inch in No 2 Union Avenue, its second Bakersfield wildcat, and an early test is contemplated.

ROCKY MOUNTAIN AREA

(Continued from Page 51)

wells. The Texas Production Co., which recently bought into the west extension towards Canon City, has started its first of a series of wells to be drilled in its No. 2 Wilson, SE cor. NW, Section 35-18-70. It is drilling at 1,865 feet. The Continental Oil Co.'s No. 1 Maschetti, SW NW, Section 2-19-70, is drilling at 875 feet, and its No. 1 Andy Smith, SW SW, Section 3-19-70, is drilling at 1,665 feet. Same company's No. 1 H. C. Watts, SE SE, Section 35-18-70, encountered a pay at 1,900 feet, and will be tested. It had some oil at 1,294 feet, but was bailed down after making about 400 bbls. Same company's No. 1 Kissinger & Wright, NE NW, Section 4-19-70, the farthest west of any well drilling in the pool, is drilling at 3,180 feet. Same company's No. 1 Adamic, NW NW, Section 12-19-70, is drilling at 985 feet. The Pleasant Oil & Leasing Co.'s No. 1 Ketchum, NE SE, Section 35-18-70, is drilling below 560 feet. The Mojado Oil & Drilling Co.'s No. 5 Hassler, SW SE, Section 21-20-69, in the south extension, is drilling at 1,650 feet. The Canon City Oil Co.'s No. 1 D. & R. G., SW SE, Section 35-18-70, is drilling at 250 feet. This well is located on the railroad right of way.

Moffat County

Operations in Moffat County disclosed little of interest the past week, the work being mostly routine with the exception of the Shaffer Oil & Refining Co.'s No. 205 Yarg, NW NW, Section 26-4n-92, which is at an interesting depth. This is a joint operation with the Yarg Producing & Refining Co., and is so located that it will yield important information as to the probable producing area of the Iles Dome. The 8¼-inch casing was cemented at 3,504 feet, the hole then being through the Dakota formation. Drilling was resumed the past week and the hole was carried down to 3,520 feet into the Morrison formation, but not into the sand according to an official. The water from above broke through and it has been decided to run the 6¼-inch to the bottom and mud it in before drilling any deeper. The objective is the Sundance sand which lies below the Morrison, and which is productive in all the wells on the top of the structure. The Texas Production Co.'s No. 17 State, NW SE, Section 15-4-92, on the north side of the structure, but on a higher contour than the Shaffer well, also is at an interesting stage. It is drilling at 3,165 feet and carrying the 10-inch which will be set after the hole is through the Dakota. The same company's No. 6 Parkinson, NW NW, Section 23-4-92, is drilling at 2,740 feet, and its No. 13 Parkinson, NE SW, Section 22-4-92, is drilling at 2,805 feet. The Alliance Oil Co.'s No. 1 Milliken, SW cor., Section 14-4-92, is drilling at 1,725 feet. The Midwest Refining Co.'s No. 8-SD-2, NW NW, Section 23-4-92, is drilling at 770 feet in gray shale, and No. 7-SD Parkinson, NW NW, Section 23-4-92, is in black shale at 2,800 feet and drilling ahead. The same company's No. 33-SD Parkinson, SW SE, Section 22-4-92, is bottomed at 104 feet where the casing was cemented. It is probable that the several Midwest operations for which rigs have been built will not commence spudding until some of the drilling wells are completed.

In Huerfano County, the Kinney-Coastal Oil Co.'s No. 1 Pinos, Section 24-26s-68, is tied up at 2,172 feet with a fishing job, the bailer being in the hole. It is probable that this test will be abandoned at this depth as it topped the granite at 2,000 feet and there is little hope for any further developments of importance.

Logan County

The Northeastern Colorado Oil Co.'s No. 1 State, Section 36-8n-55, on the Willard Dome, in Logan County, far away from the foothills in northeastern Colorado, again is active, the tools having been recovered the past week. The hole is bottomed at 5,592 feet after passing out of sand at 5,585 feet. It is believed that the hole is bottomed near another sand and the company is endeavoring to make arrangements for continuing operation until all sands that can be reached are tested.

In Pueblo County, the Boone Oil & Gas Co. is reported to have resumed operations in its No. 1 Ritter, Section 33-18s-60, near Tacony, in the northeastern corner of the county. This test was shut down last fall at 2,950 feet with 500 feet of water in the hole from sand at 2,945-50 feet. Previous to entering this sand, in which the water is stagnant and salty, the drill had gone through 550 feet of black lime and 70 feet of white lime. Underreaming is in progress to lower the casing and make a shutoff. This well has been drilling at intervals since 1925.

In Jefferson County, Charles F. Woods and others' No. 1 Ted Knowles, Section 30-3s-69, just west of Denver, is running casing at 300 feet. Nothing of interest is expected from this test until it reaches a depth of 1,200 feet, or more, when the Fox Hills is due, if it is in place.

In Las Animas County, the Phillips Petroleum Co.'s No. 1 Haskins, Section 23-29s-56, on the Red Rocks structure, a joint operation with the Reiter-Foster Oil Co., is drilling at 1,467 feet after straightening a crooked hole which delayed the operation for several weeks. The Vickers Petroleum Co. of Wichita, Kans., was reported to have made a location in Section 25-28s-57, in Las Animas County, but an officer states that the exact location of the well has not yet been spotted. In Baca County, the Marland Oil Co.'s No. 1 Mesa, Section 8-30s-50, is building derrick.

The Municipal Oil, Inc.'s No. 1 Orrison, Section 1-2s-68, on the East Lake structure, in Adams County, north of Denver and east of the old Boulder Field, is reported abandoned at 275 feet. This well commenced spudding in May, 1926, on what is said to be a structure, but has been idle for nearly two years, the tools having been moved away. Internal trouble is said to have been the cause of the delay. It was reported a few weeks ago that efforts were being made to iron out the difficulties and to go ahead with the test, but it is apparent that either these plans failed, or that some other arrangements will be made for a test, the rig having been tied up with liens.

Boulder County

In Boulder County, the Offset Oil Co.'s No. 1 Odlum, Section 28-1n-70, on the Parallel Dome, has been abandoned at 3,500 feet. It was just a short distance north of the Repollo Oil Co.'s No. 1 Deines, which had a show of oil in the Hygiene at around 3,400 feet, but which failed to reach the Dakota. The Odlum well was drilled to test out the horizon in which the showing was encountered in the Deines well, but found it dry. Subsequently the Repello company drilled its No. 1 Nichols, Section 32-1n-70, to the Dakota and abandoned it at 6,145 feet. One other well was started, this being the Essok Oil Co.'s No. 1 Martin, Section 5-1s-70, which has been shut down at 5,225 feet for some time. Negotiations looking to the carrying of this well on down to the Dakota have not so far been successful, and it probably will be abandoned. The Boulder Petroleum, Inc.'s No. 1 Spurgeon, Section 30-2n-70, which had a show of oil with water at 2,154 feet more than a year ago, has been abandoned at that depth. Efforts to shut off the water and make a test were not successful.

A test now at a critical stage is the Texas Production Co.'s No. 1 Freeman, Section 27-3n-94, on the Wilson Creek structure in Rio Blanco County. This well did not expect to encounter anything worth while until it reached the Dakota, expected at around 5,500 feet. It is now drilling at 5,490 feet, but information concerning the operation is very meager. The 8¼-inch casing was cemented at 5,380 feet, at which time it was reported unofficially to have had 5,100 feet of water in the hole, probably from the Frontier. Progress for the past few weeks has been very slow, only a few feet being made each day. The structure is a large one and has been favorably reported upon by a number of geologists, but it was known to be very deep drilling. The Standard of California drilled it one time, but failed to reach the Dakota. The Midwest Refining Co.'s No. 2, Section 30-2n-108, Rangely Dome, had to pull the 4¾-inch casing to get out some joints at the bottom, where the casing had parted. The total depth is 3,473 feet.

Montana

The Pondera Field is a new oil area of Montana, the completion of the Fulton well in Section 16-27-4 making the field a certainty. The well is making about 100 bbls. daily and the location is one-half mile north of the Montana Pacific well that discovered the field and was rumored to be a freak. For this reason the oil men have been chary about going into the Pondera Field heavily, but now that the Fulton well shows the field to be commercial in size and not merely a little pocket, the values of leases and lands have skyrocketed.

The sand was found at 2,010 feet and it is thought the development of the area will find the producing horizon at about 2,200 feet. There are three other sands below this horizon that may be found productive and the Fulton well had intended drilling to these, but the strike at the above depth halted all further work towards deepening the well.

Another strike in Pondera County, that of the Genou Oil & Gas Co.'s No. 3 on the Banatyne Dome, carries nearly as much importance as the Pondera strike. This well is a commercial producer in the Emrick sand at 1,422 feet and is estimated good for 30 bbls. daily. It is located on the SE Section 5-25-1. This makes the third well on this structure and from the dry holes found there, it would appear that the structure is going to string out into a long, narrow pool instead of oval as mapped by geologists.

The Flat Coulee well of the Sunburst Oil & Refining Co. drilling just south of the Canadian Border, Toole County, is still being held up with a cavey hole. This well came in a gasser and shortly after striking gas the well started making oil.

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then the open hole commenced caving and gradually shut off the oil flows, the crew is working to clean the hole and lower the pipe, but so far have had little success with either. However, the gas flow is now under control. This strike makes three new fields in Montana that will have active drilling campaigns this coming spring and these added to the new strikes in Wyoming will assist materially in relieving business conditions in both states.

No. 3 Baker is still flowing a stream of water, but the water is now showing oil colors and the owners hope that oil will start coming in within the next week or ten days. No. 1 Baker is making about 800 bbls. daily of clean oil now and the pipe line is handling the flow without trouble.

Hardin will hold an election on April 2 to determine whether the city shall have natural gas. The city has arranged to drill a municipal well for gas east of town in case the citizens authorize the program. Hardin is located in Big Horn County in the southern part of Montana.

An interesting wildcat is that of the Hiline Sixty-Six Oil Co.'s test in Section 27-36-1, north of the Sunburst Field. This is a deep test and is now at 2,410 feet with 130 feet more to go to reach the Ellis sand. In the Sweetgrass Hills, the Western Natural Gas Co.'s Prichard well is drilling at 600 feet.

The Shelby Oil & Gas Co.'s No. 1 in Section 11-32-2 found the Ellis sand and gas production the past week and is good for 8,000,000 feet daily. The Radford Oil Co has again started drilling on No. 1 in Section 8-34-1 after being shut down for a week. The Oil Producers Syndicate's well in Section 18-34-1 is drilling at 800 feet. The Hannah Porter Co.'s No. 3 Hannah is down 500 feet in Section 18-34-1.

Two new structures are to be tested in Teton County near Dutton. The structure known as the Dutton Dome lying about 10 miles southwest of the Banatyne Field will have a deep test financed by local capital. Still farther southwest and about 15 miles from the Banatyne Field, the Last Chance Oil Co. is starting a wildcat on the 30,000-acre block held by Speer, Craig and McCutcheon. According to the geological report, the sands of the Kootenai formation should be found at about 1,400 feet.

In Hill County, near Kremlin, the deep wildcat of the Jones Oil Co., is expecting the Ellis sand at 3,650 feet and the hole is now at 3,490 feet.

ROCKY MOUNTAIN PRODUCTION
Runs From the Field, Week Ending March 24

Wyoming	
Salt Creek	41,080
Big Muddy	3,190
Grass Creek	2,500
Elk Basin	1,100
Greybull	20
Rock River	2,510
Lance Creek	760
LaBarge	1,270
Poison Spider	460
Hamilton	1,220
Oregon Basin	700
Osage	390
Lander	670
Ferris	80
Byron	40
Lost Soldier	2,830
Simpson Ridge	40
Total Wyoming	58,860
Montana	
Cat Creek	1,810
Lake Basin	160
Kevin-Sunburst	10,000
Total Montana	11,970
Colorado	
Florence	1,092
Moffat	1,457
Fort Collins	3,201
Iles Dome	1,122
Rangely	100
Tow Creek	430
Boulder	25
Total Colorado	7,427
New Mexico	
Rattlesnake	382
Hogback	510
Cap Rock	185
Table Mesa	....
Artesia	1,147
Total New Mexico	2,224
Total Rocky Mountain	80,481

DOCTOR COOKSON DIES

Dr. Charles H. Cookson, telegraph operator for the Southern Group of Pipe Lines, Pittsburgh, Pa., died at his home in Pittsburgh, Pa., March 7.

OKLAHOMA FIELDS

(Continued from Page 40)

Miller, CNL S half SW NW, Section 13-19-8, made 12 bbls. from sand at 1,455-65 feet. Shaffer Oil & Refining Co. and Billingslee's No 1 Knight, NE cor. Section 16-15-8, came in for 35 bbls. in sand at 2,840-2,915 feet. Lima Oil Co. and Peters Petroleum Co.'s No. 1 Grayson, NW cor. NE NE, Section 11-14-7, has been abandoned at 4,020 feet. Bu-Vi-Bar Petroleum Co.'s No. 1 Nero, C SE NE, Section 16-14-7, is dry and abandoned at 1,584 feet.

Grady County

Kipp and others built the rig for No. 3 McCaughtry, SE cor. NW, Section 35-5-8w. Oklahoma Gas Utilities Corp. made location for No. 4 Sanford, SW cor. SE SW, Section 23-5-8w. No. 3 Sanford, NE cor SE SW, Section 23-5-8w, is rigging up rotary tools. Meridian Gas Co.'s No. 1 Farwell, SW cor. NE SE, Section 23-5-8w, is rigging up to deepen from 1,274 feet. Briscoe & Hall are moving in tools at No. 2 Dryden, C SE NW, Section 2-4-8w.

Commerce Development Co.'s No. 2 Glover, SW cor. NE SW, Section 13-4-8w, has been shut in for 12,000,000 feet of gas at 2,340 feet. Watchorn Oil & Gas Co.'s No. 1 Pettitt, C SW NE, Section 14-4-8w, set 8-inch casing at 2,170 feet, drilled to 2,476 feet and was completed for 8,000,000 feet of gas. American Drilling Co.'s No. 7 Sanford, C SW SW, Section 23-5-8w, is making 30,000,000 feet of gas from sands at 2,020 feet to 2,500 feet. Meridian Gas Co.'s No. 5-A Farwell, NW cor. NE SE, Section 23-5-8w, is shut in for 10,000,000 feet of gas at 2,097 feet.

Jackson County

Stanley McGregor made location for No. 1 Harkness, SW cor. NW, Section 23-1s-20w.

Kay County

Carter Oil Co. and others' No. 1 E. Nixon, SE cor. SW NE, Section 17-29-1, is an old well drilling deeper at 2,500 feet. Anolu Oil Co.'s No. 2 Barr, C NE NW, Section 16-27-1w, Blackwell area, is rigging up to deepen from 3,440 feet. Burnham & Pochelle's No. 2 Rustle, Jr., CWL E half NW NE, Section 7-27-2, is spudding for gas.

Black Gold Oil Co 's No. 3 Moore, NW cor. NE NW NW, Section 10-27-1w, Blackwell Field, was deepened to 3,685 feet and abandoned. Sinclair Oil & Gas Co.'s No. 1 Hall, SE cor. NW, Section 19-27-1w, was plugged back to 1,900 feet and abandoned. The Prairie Oil & Gas Co.'s No. 2 Hargrave, C SW NE, Section 19-27-1w, has been completed for 6,000,000 feet of gas in sand at 1,865-70 feet. Burnham & Pochelle's No. 1 R. Rustle, Jr., SE cor. NE NE, Section 7-27-2, has been completed for 1,900,000 feet of gas in sand at 550-58 feet.

Logan County

Sinclair Oil & Gas Co. is erecting the rig for No. 1-A Weber, SE cor. Section 18-19-4w, Roxana Pool. No 1 Knecht, SW cor. NE, Section 28-18-4w, Lovel Pool, has been completed for 490 bbls. after plugging back from 6,325 feet to the Tonkawa sand at 4,040-60 feet. Blackwell Oil & Gas Co.'s No. 1 Sode, NE cor. SW, Section 28-18-4w, is making 136 bbls. from sand at 4,227-56 feet after plugging back from 4,944 feet.

Marshall County

Wirt Franklin Petroleum Corp. is building the rig for No. 1 Foster, SE cor. SW SW NW, Section 35-4s-4.

Osage County

R. L. Berlin made location for No. 11, SW cor. NW SW, Section 24-29-10. Kewanee Oil & Gas Co has built the rig for No. 8, SE cor. NW SE, Section 34-27-6, Burbank Pool. Winona Oil Co. made location for No. 23, SE cor. NW SE, Section 28-24-10. Osage Gas Producers Co. made location for No. 387, SW cor. NW NE, Section 32-24-12. Silurian Oil Co. staked the location for No. 2, NW cor. SE SE, Section 12-23-11. Pueblo Petroleum Co. made location for No. 1, NE cor. SE SW, Section 14-21-8.

The Prairie Oil & Gas Co.'s No. 2, NW cor. SW NW, Section 21-27-6, made 1,700 bbls. from sand at 2,888-2,970 feet. No. 3, SW cor. NW, Section 21-27-6, was completed for 710 bbls. from sand at 2,892-2,965 feet. J. A. Kennedy's No. 2, SE cor. SW SW, Section 29-20-12, is dry and abandoned at 2,165 feet.

Pawnee County

J. A. Turner and others' No. 1 Est, SE cor. NE, Section 30-20-9, is spudding.

Stephens County

Snodgrass Oil Co.'s No. 5 Malernee, SE cor. NE NW, Section 34-1s-8w, is drilling at 50 feet. Magnolia Petroleum Co.'s No. 2 Corbin, NW cor. NE, Section 12-2s-5w, is an old well rigging up to deepen from 430 feet.

Smith-Law Co.'s No. 1 Malechi, NE cor. SW NE, Section 31-1-8w, had sand at 1,870-86 feet from which it is flowing and pumping 200 bbls. Carter Oil Co.'s No. 2 Morgan, SW cor. NW NE, Section 32-1-8w, has been abandoned at 2,426 feet. Magnolia Petroleum Co.'s No. 9 D. Bartley, NW cor. SW NW, Section 20-1s-8w, has been completed for 15 bbls. in sand at 2,264-80 feet. Pearce & Brown's No. 8 Wilkinson, SW cor. SE, Section 27-1s-8w, has been completed for 25 bbls. in sand at 1,690-94 feet. Snodgrass Oil Co.'s No. 4 Malernee, NE cor. NW, Section 34-1s-8w, made 70 bbls. from sand at 1,688-94 feet. David Malernee's No. 4 Burke, NW cor. SE NE, Section 34-1s-8w, is a 12-bbl. well in sand at 1,658-63 feet. Magnolia Petroleum Co.'s No. 5 Harris, NE cor. SE NW SW, Section 36-1s-5w, has been abandoned at 1,915 feet. Turman Oil Co.'s No. 1 Burke, NW cor. Section 4-2s-8w, has been abandoned at 2,312 feet.

Texas County

Texas County Gas Co.'s No. 1 Bar Bee, C NE NE, Section 17-3-15ecm, has been completed for 7,000,000 feet of gas in sand at 2,606-42 feet.

Tulsa County

Ed Lee has a machine at the location for No. 1 Perryman, SE cor. NW NW, Section 6-19-10. Glidden Oil Corp.'s No. 2 Riverbed, CWL NW SE, Section 15-19-11, has been completed for 500,000 feet of gas in sand at 889-955 feet. Unger and others' No. 4 Johnson, CWL NE NE, Section 36-19-11, is dry and abandoned at 2,523 feet. Ellen Oil & Gas Co.'s No. 3 Island, NW cor. NE NE, Section 25-18-14, has been completed for 30 bbls. in Dutcher sand at 1,268-1,302 feet.

Coal County

Witchtex Oil Co. made location for No. 1 Folsom, C NW NW, Section 5-2-8.

Muskogee County

W. C. Newman has a machine at the location for No. 1 Corbray, SE cor. Section 3-15-15. Ark-Add Oil Co.'s No. 3 Muskogee Townsite, Lot 48, Block 14, NE cor SW NE SW, Section 6-14-19, is drilling at 270 feet. G. Badgett's No. 1 Muskogee Townsite, Lot 43, Block 13, NE cor. SE NE SW, Section 6-14-19, is drilling at 300 feet. Hale Ford Oil Co.'s No. 4 Clark, SW cor. NW SE, Section 6-14-19, is drilling at 350 feet. No. 5 Clark, SW cor. NW SE, Section 6-14-19, is drilling at 100 feet. Meek & Ederington moved a machine out for No. 1 Muskogee Townsite, Lot 37, Block 7, SW cor. NW NE SW, Section 6-14-19. Ragland & Curly's No. 1 Muskogee Townsite, Lot 47, Block 13, NE cor. SE NE SW, Section 6-14-19, is drilling at 100 feet. Simpson & others' No 1 Muskogee Townsite, Lot 12, Block 16, SE cor. NE SW, Section 6-14-19, is drilling at 140 feet. H. Skelly's No. 1 Muskogee Townsite, Lot 36, Block 13, C SE NE SW, Section 6-14-19, is drilling at 130 feet. A. Tillman's No. 1 Muskogee Townsite, Lot 47, Block 16, SE cor. NE SW, Section 6-14-19, is drilling at 280 feet. Walton Oil Co.'s No. 2 McDaniel, NW cor. SW SE, Section 6-14-19, is drilling at 100 feet. No. 1 Compton, NW cor. NE, Section 7-14-19, is a machine on the location.

J. B. Parks' No. 1 Benge, NW cor. SW NE NW, Section 13-15-19, is dry and abandoned at 1,415 feet. E. J. Lambert's No. 1 Hutton, NE cor. SW, Section 22-13-15, has been abandoned at 2,217 feet.

Okfuskee County

Atlantic Oil Producing Co. has the rig on the ground for No. 2 Summer, NW cor. SW NE SE, Section 11-10-11. W. L. Umburn moved a rig out for No. 1

1000 feet 11″ hole 40 hours

cost 3 cents per foot

K-P THE LINE OF LEAST RESISTANCE

STRAIGHT-HOLE Rotary Drilling Bit

—made this speed and low cost record. A 1000 feet of 11″ hole in 40 hours, passing another well by 100 feet that was started 5 days previously, is the record made by the Klingensmith Drilling Company at Pearson Switch, Okla., with three sets of K-P self-sharpening cutters in a K-P *Straight-Hole* Bit. *This thousand feet cost Klingensmith only $30.00 for K-P self-sharpening cutters.* The total footage was made in three round trips.

Kennedye-Plumb Corp.
Railway Exchange Building
ST. LOUIS, MO.

Sold by every
"Continental" — "National" — "Oil Well" supply company branch store.

Hill, SE cor. NE NW SE, Section 11-10-11. Superior Oil Corp.'s No 1-A Cubbie, C SE SE, Section 33-10-11, is drilling at 1,000 feet.

W. L. Umbrum's No. 2 Summer, NW cor. NE SE, Section 11-10-11, is making 150 bbls. from sand at 2,006-21 feet. Atlantic Oil Producing Co.'s No. 1 Robinson, C NW SW, Section 12-10-11, is dry and abandoned at 2,740 feet.

Hughes County

Bauer and others made location for No. 1 Penn, NW cor. SW NE, Section 1-8-10.

Okmulgee County

L. C. Wheeler and others' rig is up for No. 3 Prince, SW cor. NE NE, Section 36-14-12. J W. Sharpe and others' No. 1-A Morton, NE cor. SE NW, Section 17-14-14, is spudding. Speary and others' No. 1-A Rentie, NW cor. SW, Section 7-14-15, is a machine on the ground.

L. C. Wheeler and others' No. 2 Prince, CNL NE, Section 36-14-12, has been shut in for 750,000 feet of gas from sand at 1,205-38 feet. B. Martin's No. 2 Calloway, CEL SE NW, Section 3-11-12, has been completed for 500,000 feet of gas in sand at 1,860-90 feet. A Beale and others' No. 11 Rentie, CWL W half SE NW, Section 35-15-14, is a gas well making 500,000 feet of gas from sand at 1,595-1,625 feet. J E. Wallace's No. 7 Colbert, CNL SW SE, Section 14-14-14, made a 10-bbl. well after shooting 60 quarts in sand at 995-1,007 feet.

Pittsburg County

Quinton Spelter Co.'s No. 1 Yoho, NE cor. Section 21-7-17, is making 1,500,000 feet of gas from sand at 2,505-2,620 feet.

Pontotoc County

Shaffer Oil & Refining Co. made location for No. 8 Yoakum, NW cor. SW SW, Section 9-5-8, Allen Pool. Homaokla Oil Co. has the rig on the ground for No. 4 Berry, NW cor. NE SE, Section 19-5-8. Douglas Oil Co. made location for No. 1 Johnson, C NW NW, Section 10-3-8.

C. B. Shaffer's No. 7 Yoakum, SW cor. Section 9-5-8, is making 25 bbls. from sand at 789-812 feet. No. 6 Yoakum, NW cor. Section 16-5-8, swabbed and flowed 350 bbls. from sand at 2,468-2,526 feet. Louisiana Oil Refining Co.'s No. 6 McElroy, NE cor. NW SE, Section 17-5-8, is dry and abandoned at 2,981 feet. Max Westheimer's No. 1 Wade, NE cor. NW SE, Section 19-5-8, was completed for 317 bbls. in sand at 2,657-95 feet. W. R. Ramsey's No. 3 P Harjo, SW cor. Section 20-5-8, has been abandoned at 2,660 feet in lime. Marland Oil Co.'s No. 1 Lowrance, C SW SE, Section 10-4-4, is dry and abandoned at 2,196 feet in the Wilcox sand topped at 2,125 feet.

Pottawatomie County

Magnolia Petroleum Co. has the rig on the ground for No. 2 School Land No. 75, NE cor. SE NW, Section 36-7-3, Pearson Pool. Sinclair Oil & Gas Co. made location for No. 1 M-Qua-Ka, SW cor. Section 11-7-4, St. Louis Pool. Magnolia Petroleum Co.'s No. 1 Mull, NE cor. SE, Section 15-7-4, is an old well rigging up to deepen from 3,650 feet. Gypsy Oil Co. has the rig on the ground for No. 3 Cecil, NE cor. SW NE, Section 19-7-4, Pearson Pool. Independent Oil & Gas Co. and Darby Petroleum Co.'s No. 1 Le Clair, SW cor. NW NE, Section 23-7-4, is rigging up to deepen below 3,932 feet. Wolfe Oil Corp. is erecting the rig for No. 1 Guinn, SW cor. NW, Section 16-7-5. Magnolia Petroleum Co.'s No. 1 Hembree, NW cor. SE, Section 19-7-5, is being rigged up to deepen from 4,035 feet No. 2 Shipshowohno location was made SE cor. SW NE, Section 19-7-5. The Prairie Oil & Gas Co. is building the rig for No. 1 W. H. Desmond, SE cor. NW, Section 25-7-4. The rig is under construction for No. 1 W. H. Ellison, NE cor. SW, Section 25-7-4.

Independent Oil & Gas Co. and Darby Petroleum Co.'s No. 1 Kelly, NE cor. NW SE, Section 14-7-4, St. Louis area, is dry and abandoned at 4,257 feet Magnolia Petroleum Co.'s No. 2 Robbins, SW cor. SE SE, Section 15-7-4, made 4,440 bbls. from Hunton lime at 3,725-3,800 feet. Continental Oil Co.'s No. 3 Neghnguit, NE cor. SE NW, Section 19-7-4, Pearson Pool, has been completed for 485 bbls. in Hunton lime at 3,850-3,947 feet. No. 1 Shipman, SW cor. NW NE, Section 19-7-4, made 347 bbls. from Hunton lime at 3,820-3,901 feet. Gypsy Oil Co.'s No. 2 McGee, NW cor. SW NE, Section 23-7-4, had top of Simpson at 4,240 feet, drilled in to 4,309 feet and made 1,897 bbls. McCulloch Oil Co 's No. 1 Smith, NW cor. SE, Section 25-7-4, had maximum production of 2,007 bbls. from Simpson sand at 4,139-76 feet.

Seminole County

T. B. Slick and Gypsy Oil Co.'s No. 1 Frazee, SE cor. SW SW, Section 36-9-6, Seminole Pool, is rigging up rotary tools. Gypsy Oil Co.'s No. 3 Harjoche, NE cor. SW NW, Section 10-8-6, Bowlegs Pool, is rigging up rotary. Pure Oil Co.'s No. 5 Strothers "F," NW cor. SE NW, Section 10-8-6, is a rig under construction. Magnolia Petroleum Co 's No. 1 Davis, NW cor. SE, Section 13-8-6, Bowlegs Pool, is setting surface pipe. Gypsy Oil Co 's No. 4 Pattey, NE cor. Section 35-8-6, Little River Pool, is rigging up rotary tools. Roxana Petroleum Corp. has the rig on the ground for No. 1 Caesar, NW cor. SE NE, Section 11-7-6, Little River Pool. Tidal Oil Co. made location for No. 1 Shecor, SW cor. SE SE, Section 7-7-7. Mid-Continent Petroleum Corp. has the rig up for No 11 Fleet, SW cor. SE, Section 7-5-8. Louisiana Oil Refining Co. made location for No. 1 Stratler, SE cor. SW, Section 7-5-8, Allen Pool. W. R. Ramsey made location for No. 1 Amos, NE cor. SE SW, Section 7-5-8.

Empire Oil & Refining Co.'s No. 1 Harjoche, SW cor. SE, Section 34-10-6, Searight Pool, has been completed for 1,500,000 feet of gas in Hunton lime after drilling to the Wilcox sand at 4,360 feet. Twin State Oil Co.'s No 3 Jeming, SE cor. NW, Section 4-9-6, lost the hole at 3,900 feet and was plugged back to 2,445 feet then abandoned. Blackwell Oil & Gas Co.'s No. 1 Porter, SE cor. SW, Section 3-9-8, is good for 6,000,000 feet of gas from sand at 3,375-76 feet.

The Texas Company's No. 14 Reed, NE cor. NW NE, Section 14 8-6, Bowlegs Pool, is dry and abandoned in Wilcox sand at 4,358-4,515 feet. Magnolia Petroleum Co.'s No. 3 Pattey, NW cor. SE NE, Section 35-8-6, Little River Pool, had top of Wilcox sand at 4,269 feet, drilled in to 4,276 feet and swabbed 400 bbls. Carter Oil Co.'s No. 8 Fish, NE cor. SW NW, Section 36-8-6, had Wilcox sand at 4,384-4,404 feet and made 70 bbls oil. Snowden & McSweeney's No. 1 Tiger, NW cor. Section 13-7-6, had an initial production of 3,657 bbls. from Wilcox sand at 4,315-24 feet after being opened up. Independent Oil & Gas Co.'s No. 1 Hotulke, SW cor. NW NW, Section 23-7-6, made 2,844 bbls. in nine hours from Wilcox sand at 4,323-29 feet.

Gardner and others' No. 1 Harris, NW cor. SE, Section 36-6-7, is dry and abandoned at 3 010 feet. Mid-Continent Petroleum Corp.'s No. 1 Jarjo, SE cor. NE NE, Section 14-5-7, has been shut in for 10,000,000 feet of gas in sand at 2,618-22 feet. Louisiana Oil Refining Corp.'s No 2 Punluste, NW cor. NE SW SW, Section 8-5-8, Allen Pool, made 180 bbls. from sand at 2,423-52 feet. The Prairie Oil & Gas Co.'s No. 6 Templeton, NE cor. SW SE, Section 12-8-6, has been completed for 1,100 bbls. in Wilcox sand at 4,355-74 feet.

Wagoner County

Keener Oil & Gas Co. has a machine out for No. 1 Jameson, C NW NW, Section 8-18-18.

KANSAS FIELDS

(Continued from Page 40)

and additional drilling will not be rushed as it would have been had the well held up well.

Production by companies of the Oxford Pool giving the daily average output for the week ending March 24 follows:

	Bbls.
Roxana Petroleum Corp.	6,576
Noble and others	10
LaRobb and others	162
Ramsey Brothers	193
Sharp and others	15
Pickard and others	150
Total	7,106

In McPherson County, The Texas Company's No. 2 Chinberg, NW cor. NE NW, Section 32-16-2w, is still in sand found at 2,338 feet, and has reached a total depth of 2,377 feet. On a swabbing test this well made an average of 2 bbls. per hour, and is now shut down for orders. It will probably be shot, in an effort to make a good well at this depth.

An important well in the Russell County territory is Keys Petroleum Co.'s No. 15 Baxter (formerly carried as No. 1 Baxter, and numbered by special arrangement) has a rainbow show of oil in a sand found 3,315-18 feet, and this formation will be tested out.

The production by companies of the Churchill Pool of Sumner County giving the daily average output for the week ending March 24, is:

	Bbls.
Roxana Petroleum Corp.	10,249
Derby Oil Co.	622
Vickers Petroleum Co.	220
Wentz Oil Corp.	281
Felby Oil Co.	6
Washoma Oil Co.	53
Total	*11,431

*From 69 wells.

Butler County

Sage, Fowler and others' rig is under construction for No. 1 Alberts, SW cor. SE SE, Section 21-25-4. Empire Oil & Refining Co. is building the rig for No. 1 Evertson, SE cor. NW NE, Section 17-28-7.

Federal Oil Co 's No. 12 Drum-Bitler, CEL NE, Section 31-26-8, has been abandoned at 1,298 feet. LaRobb Oil Co. and others' No. 1 Sluss, SE cor. NE SW, Section 6-27-6, is dry and abandoned at 3,175 feet. Empire Oil & Refining Co 's No. 1 Hedderman, SE cor. Section 13-28-5, is a dry hole at 3,188 feet. Basom and others' No. 1 Tavender "A," NE cor. SE NE, Section 26-28-6, is dry and abandoned at 2,830 feet.

Chase County

Denman and others moved a machine out for No. 1 Ewers, C NW SE, Section 15-18-6.

Coffey County

Bruce, Bradley and others' No. 1 Reed, NW cor. SW SW, Section 23-22-13, is dry and abandoned at 2,243 feet. McCulloch Oil Co.'s No 1 Eppinger, CWL SE NW, Section 23-22-13, has been completed for 15 bbls. in sand at 1,829-53 feet.

Cowley County

Roxana Petroleum Corp.'s No. 1 Martin, NW cor. SW, Section 19-21-3, is dry and abandoned at 2,005 feet. Barnsdall Oil Co.'s No. 1 Roberts, NE cor. SE NE, Section 7-33-3, has been brought in for 150 bbls. in sand at 3,486-90 feet. Watchorn Oil & Gas Co.'s No. 1 Esch, C NW NW, Section 4-34-6, is dry and abandoned at 770 feet.

Dickinson County

Phillips Petroleum Corp. has the machine out for No. 1 Gugler, SE cor. NW, Section 11-14-4.

Elk County

Smith & Ash made location for No. 1 Hand, SE cor. NW SE, Section 21-31-9.

Greenwood County

Empire Oil & Refining Co. is erecting the rig for No. 8 Ott "A," SE cor. NW NW, Section 25-22-12. The rig is also being built for No. 11 Schwab, CNL NW SE NE, Section 25-22-12. The rig is up for No. 4 Ott "C," SW cor. NE NE, Section 26-22-12. Darby Petroleum Co. has the rig on the ground for No. 10 Schwab, CNL SE SE NW, Section 30-22-13. McCulloch Oil Co. moved a machine out for No. 2 Roglin, CWL SW SW, Section 10-25-13. McCready Oil Co. made location for No. 1 Gustin, SE cor. SW, Section 34-25-13. Hawley and others' rig is up for No. 1 Pederson, NW cor. NE SW, Section 4-26-13. Rockhill and others moved the rig out for No. 1 Jones, SW cor. NE, Section 21-26-13.

Skelly Oil Co. and others' No. 2 Pixlee, SW cor. SW SE, Section 3-22-10, has been completed for 100 bbls. in sand at 2,144-88 feet. Ritchey & Moore's No. 1 Pixlee, NE cor. SW, Section 4-22-10, is dry, and abandoned at 2,400 feet. Schwartz and others' No 1 Spencer, SW cor. Section 28-22-11, is a dry hole at 2,036 feet. Theta Oil Co.'s No. 6 Fankhouser, NE cor. SE SE, Section 23-23-12, has been completed for 125 bbls. in sand at 1,679-1,711 feet. Empire Oil & Refining Co.'s No. 10 Schwab, NE cor. SE, Section 25-22-12, is dry and abandoned at 1,855 feet. Darby Petroleum Corp.'s No. 9 Schwab, SE cor. NW, Section 30-22-13, made 300 bbls. after a shot of 200 quarts. Sand is at 1,714-67 feet. Superior Oil Co.'s No 1 Lou, SE cor. NW NE, Section 33-22-13, has been abandoned at 1,922 feet. Carnes & Bly's No. 1 Smith, NE cor. SE, Section 4-24-13, has been abandoned at 1,801 feet. Polhamus and others' No. 1 May, SE cor. Section 35-25-10, made 35 bbls. from sand at 1,984-90 feet. Gilli'and Oil Co. and others' No. 1 Burton, CEL SE SE, Section 9-25-13, had sand at 1,500-11 feet and made 32 bbls. Devine and others' No. 1 Bradford, SW cor. NE, Section 22-26-11, is shut in for 1,500,000 feet of gas in sand at 635-60 feet.

McPherson County

Mid-Kansas Oil & Gas Co. has the rig on the ground for No. 1 Larson, C NE SW, Section 31-18-2w. Tatloyd Oil Co. made location for No. 1 Chinberg, C SW NW, Section 32-18-2w. Tatlock and others' No. 1 Chinberg, NE cor. NW NW, Section 32-18-2w, is making 8,500,000 feet of gas from sand at 2,927-57 feet.

Marion County

Rosenthal and others' rig is up for No. 1 Talchman, NW cor. SW SW, Section 13-17-3. Phillips Petroleum Co.'s No. 1 Frank, NE cor. SW SE SE, Section 15-17-4, Lost Springs Pool, made 25 bbls. from sand at 2,386-2,464 feet. Larianx and others' No. 1 Barnes, SE cor. NE NE, Section 22-17-4, is good for 90 bbls. from sand at 2,375-2,443 feet. No. 1 Shoupe, NE cor. SE NE NE, Section 22-17-4, is making 65 bbls. from sand at 2,384-2,417 feet. Phillips Petroleum Co.'s No. 2 Raznicek, SW cor. NW SW, Section 22-17-4, was completed for 35 bbls. in sand at 2,387-2,443 feet. Ward and others' No. 1 Layton, NW cor. SE NE NE, Section 22-17-4, is making 75 bbls. from sand at 2,387-2,444 feet. Phillips Petroleum Co.'s No. 3 Peterson, NW cor. SW NW, Section 23-17-4, made 40 bbls. from sand at 2,372-2,440 feet. Reynolds and others' No. 1 Nettrourer, SW cor. NW NW, Section 23-17-4, has been completed for 90 bbls. from sand at 2,355-2,428 feet.

Russell County

Liggett and others' rig is up for No. 1 Chrisler, SW cor. NW SW, Section 9-11-15w.

Sumner County

De Forrest Drilling Co. made location for No. 1 Meyers, NE cor. SE SE SE, Section 26-30-2w. Roxana Petroleum Corp.'s No. 4 Barnes, SE cor. SW SW SW, Section 14-32-2, Oxford Pool, is a rig on the ground. Palmer and Barnsdall Oil Co. made location for No. 5 Wenrich, NE cor. NW NW NW, Section 23-32-2. Location was also made for No 6 Wenrich, NW cor. Section 23-32-2. The rig is up for No. 7 Wenrich, CWL NW NW, Section 23-32-2. Hartman & Skaer made location for No. 1 Graves, SE cor. Section 7-35-1.

Washahoma Oil Co.'s No. 1 Bussard, NE cor. SE NE SE, Section 26-31-2, is dry and abandoned at 1,912 feet. Roxana Petroleum Corp.'s No. 1-A Fritz, NE cor. Tract 5, Oxford Townsite, Section 14-32-2, has been completed for 15 bbls. in sand at 1,265-75 feet.

GASOLINE MOVEMENT HEAVY AT SHREVEPORT

SHREVEPORT, La., Mar. 26.—Gaining strength as the season advances and with warm weather prevailing in this territory for the greater part of the last two weeks motor fuel in this territory is quoted at 6¾ cents by local refiners who are shipping as fast as they can turn out the product. Scarcity of kerosene has not so far caused any change from the 4¾ to 5 cents quoted for the last several weeks. Gas oil at 2¾ to 3 cents is showing a weakness, this quotation being a quarter off from prices quoted two weeks ago Fuel oil is still moving at 97½ cents to $1 per barrel.

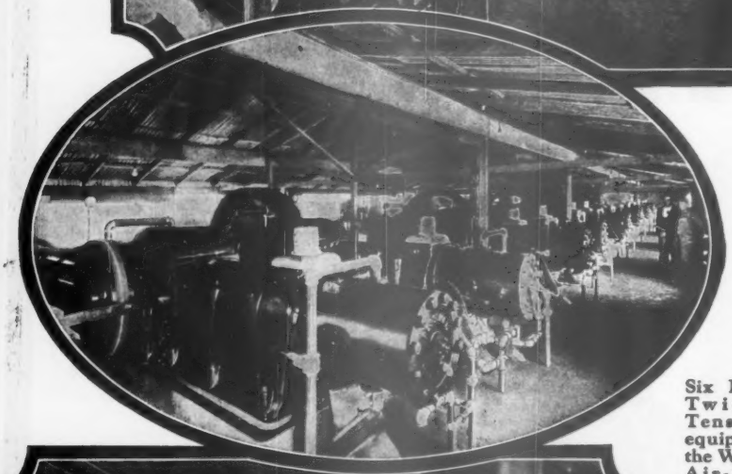
HILL & FOSTER
AUTOMATIC CATHEAD

POSITION OF DRUM WHEN JOINT IS BROKEN

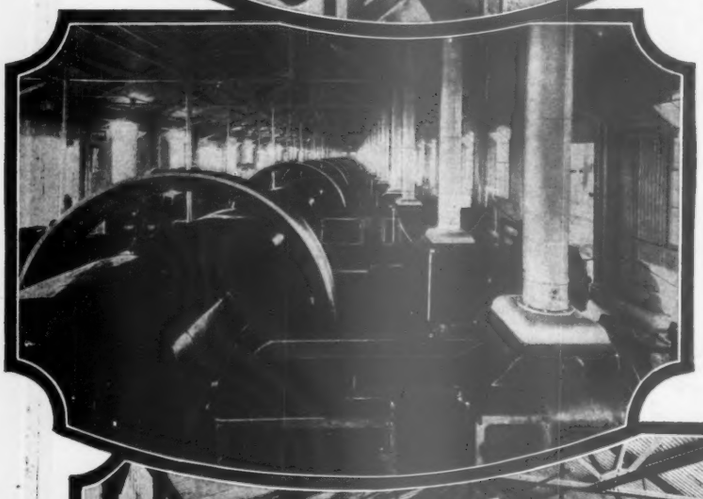
Chain Freely Unwinds Immediately After Breaking Joint, Ready For Operator To Break The Next Joint By Simply Pulling The Rope

THE NATIONAL SUPPLY COMPANIES

In this Air-Gas Lift Plant of the Magnolia Petroleum Co. in the Earlsboro, Seminole field there are 14-165 H. P. Bessemer Twin Type Tens.



Six Bessemer Twin Type Tens are the equipment in the Wadsworth Air-Gas Lift Plant of the Mid-Continent Petroleum Corporation.



Eighteen 165 H. P. Bessemer Twin Type Tens in the Carter Oil Co's Stewart gasoline plant, Seminole field.

The four Bessemer Twin Type Tens in a plant of the Wilcox Oil & Gas Co., Seminole, Okla.

Running Time

WHEREVER Bessemer Compressors are found in service, there you will invariably find running records of 99%+; records which give striking proof of their Bessemer performability, whether in gasoline plants, air-gas lift plants or booster stations.

Once a Bessemer is put to work it stays on the job, delivering the utmost in compressor service year after year. It is for this reason that they represent the soundest compressor investment that you can make—judged by mechanical or compressor efficiency, maintenance expense or depreciation. Thousands of installations are constantly demonstrating that Bessemers can be relied upon to deliver this profitable running-time-plus, consistently.

THE BESSEMER GAS ENGINE COMPANY

52 York Street ∴ Grove City, Pa.

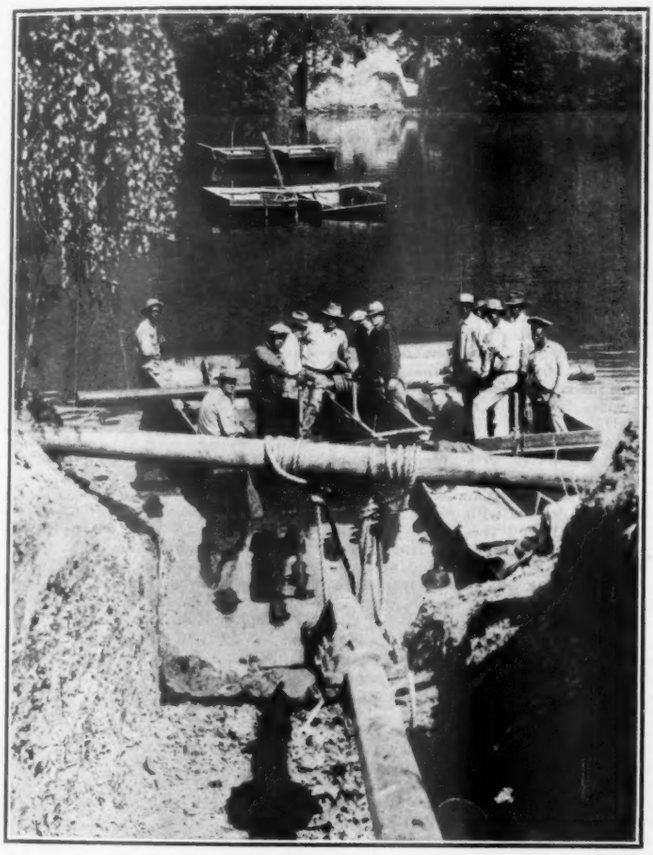
BESSEMER

HIGH PRESSURE NATURAL GAS LINE ELECTRICALLY WELDED 45 MILES

By B. K. Smith
President, Big Three W'-lding & Equipment Co.

At Lamkin, in northeastern Louisiana, there was gas. At Hodge, 45 miles to the southwest, a factory was going up. A high-pressure pipe line was wanted between the two so that the gas from Lamkin might be carried over the intervening hills and va'leys, through the woodlands and swamps, to serve the Advance Bag & Paper Co. The pressure at Lamkin was 1,000 pounds, and it was computed that a 7-inch line would be of ample capacity.

We have worked on many types of jobs, employing both the metallic and the carbon arc electrodes, and we have come to have infinite faith in joints made by electrical fusion of metals. By way of demonstration before beginning fabrication of the Lamkin-to-Hodge line, we conducted a test in the presence of interested officials. For the test five lengths of pipe, each 30 feet long, were laid on 1-foot-high skids and welded.



When this photograph was taken the river section was under test, 650 pounds were on the line and the men were watching for bubbles that would be indicative of leaks. They saw none.

The line thus formed was tested with 1,250 pounds hydrostatic pressure. No leaks developed, though each weld was beaten with a heavy hammer. Not satisfied with this, the superintendent of the company, for whom we were making the test, removed all the center skids and left the five lengths of pipe hanging by the ends. While the line was thus supported by its extremities, a man jumped again and again on the middle of it. Still no joint broke or showed the slightest sign of leakage.

Welds Made in Two Layers

On August 25, 1927, we started actual work on the line. Our equipment consisted of three Lincoln stable-arc engine-driven welders. Each machine was mounted on an ordinary wagon drawn by two mules. The work of the operators, who were to be engaged on the line, was tested at our shop and the method we had developed for making pipe welds was taught them. Each weld was made in two layers; the first layer was laid about one-half the thickness of the pipe wall; on top of it a second layer was placed to bring the metal to the desired depth. This plan of making the welds in two layers, instead of one, was to eliminate pinholes. If an invisible pinhole develops in the first bead or weld the top or second bead will cover it. In the field the owners employed an inspector to scrutinize every weld with a magnifying glass. He was instructed not to pass a joint if the minutest pinhole or crack was visible.

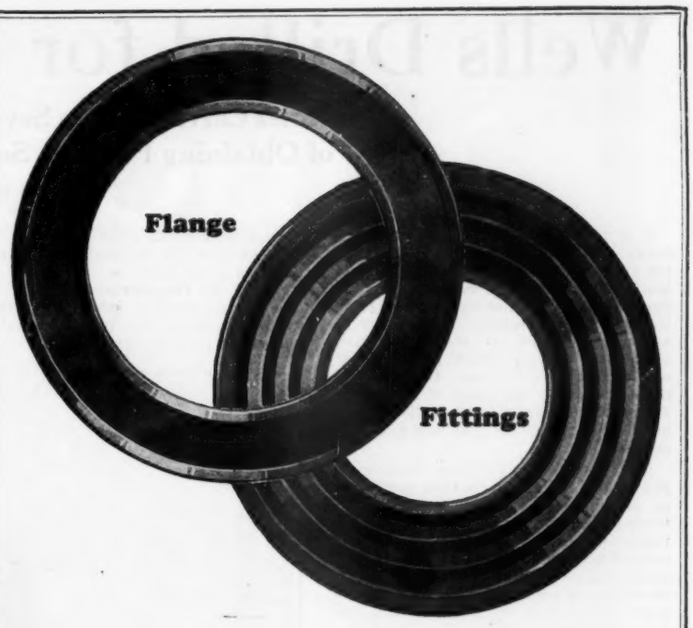
The first five miles of the line was laid from the Hodge end over very unfavorable country. It passed through a thick forest, over ravines, hills and ditches; and every 50 feet or less it rose or bent. In spite of these topographical difficulties, I felt that with the proper care these first 5 miles could be covered without a single leak; so on September 1, 1927, I promised my operators a bonus of $100 if the first 5-mile section was completed without fault. On September 9 the 5-mile run was finished and tested with 650 pounds hydrostatic pressure. No leaks or pinholes were found in the 1,110 joints that had been made.

Gas Pressure for Tests

On the completion of the 5 miles at the Hodge end, our equipment was moved to Lamkin, where the gas wells are. Our reason for making this shift was that with the 1,000 pounds pressure at the wells we could make our tests a great deal cheaper than with water. From then on each 5-mile section was tested by hammering the welds and inspecting them with soapsuds while the line carried 600 to 650 pounds gas pressure.

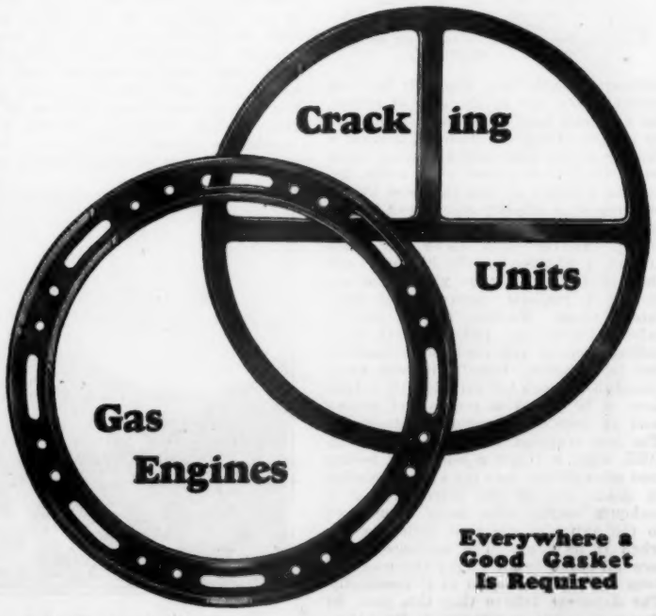
Four operators comprised our main welding crew, and as all worked at the same speed we instituted a method of

(Continued on Page 122)



McKim Metallic Gaskets Last LONGER and Are SAFER.

McCord Radiator & Mfg. Co.
DETROIT



Everywhere a Good Gasket Is Required

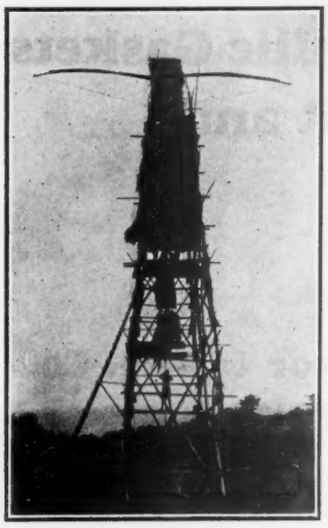
Wells Drilled for Hot Water in Japan

Holes Carried Down Several Hundred Feet for Purpose of Obtaining Product, So Far Without Commercial Use

By E. R. Dickover
American Consul, Kobe, Japan

It is doubtful if the oldest and hardest-boiled well driller in the United States has ever punched a hole in the bosom of Mother Earth with the sole and manifest purpose of finding hot water—just plain hot water, and smelling rather badly of hydrogen sulphide, at that. Hydrogen sulphide is the gas which gives ancient eggs their distinctive odor. But down on the east coast of the island of Kyushu in Japan the Jananese drill wells several hundred feet deep for that sole and only purpose.

The district around the villages of Beppu and Kamegawa in Oita prefecture in Kyushu was the scene of comparatively recent volcanic activity, Mount Tsurumi, rising back of the shore, having erupted last about 300 years ago. Several hundred more or less hot springs are scattered around an area of about 10 square miles at the base of the mountain, and here and there are "jigoku" ("hells"), as the people of the district call them. These are geysers, boiling pools, steam vents and



A Japanese Well-Drilling Outfit
The derrick is built of cedar poles lashed together with straw ropes—but it works. Note the bow across the top from which the drill is suspended.

solfatara. Some have been left in their natural state, but in the case of others, the Japanese have endeavored to improve on nature. Thus, the Tsurumi Jigoku, a fiercely boiling pool with a roaring steam jet escaping from a vent in the rocks, has had its intrinsic terrors enhanced by the planting of a life-size stone devil in the midst of the turmoil of boiling water and steam. As the wind blows the steam around, a glimpse can be had now and then of the devil, thus giving the onlookers a realistic impression of their future abode. Another of the "hells," called "Chi-no-ike" (Blood Pool), is a boiling pool of red mud, some hundred feet in diameter. Usually it boils away peacefully enough but occasionally (about once in 10 years) it erupts and throws mud all over the surrounding landscape. The last eruption was on September 2, 1927, when it threw a column of boiling mud some 60 feet into the air and scalded to death one of the attendants of a teahouse nearby, who, being accustomed to the antics of the pool, failed to run when it blew up. The teahouse maids now all stand or sit facing the pool and keep a wary eye cocked at it constantly. The Japanese believe that this pool, by its eruptions, gives warning to the nation of some momentous event about to take place, such as the outbreak of a war or the death of an emperor.

No Commercial Use

As yet no attempt has been made to utilize the steam jets for industrial or commercial purposes unless the charging of admission fees to see them may be called a commercial purpose. Some of the vapors from the solfatara are used for steam baths and throughout the region small steam jets are used for cooking, but no serious attempt has been made to utilize the more powerful steam jets for power purposes—principally because water power is plentiful and more easily developed. Near Kamegawa a local capitalist capped a powerful steam jet and after leading the steam through some chemicals to neutralize the sulphur vapor, uses it to operate a small turbine, which drives an electric generator. He claims that he can generate 100 horsepower with the outfit, but ordinarily he develops only 3 horsepower and uses the plant only for sightseeing purposes, charging an admission fee of 10 sen (5 cents) to see it. He calls it the "Denki Jigoku" (Electrical Hell).

For centuries past, however, the Japanese have used the natural hot springs of the region for the treatment of all sorts of disorders, from prickly heat to insanity. As a result, the natural springs have long been pre-empted and have hotels and bathhouses built over them. But it was found long ago that by digging shallow wells in certain places (along the courses of the seven underground hot water streams), the hot water would rise almost to the surface and could be utilized in semibasement bathrooms. Practically every hotel and private home in Beppu and Kamegawa, therefore, has its own natural hot mineral water bath. There is a beautiful stretch of sea beach, however, some three or four miles in extent, between Beppu and Kamegawa, which offers ideal sites for villas and hotels, except that there are no natural hot springs available and shallow wells failed to produce hot water. Recently, therefore, artesian wells were tried, and at depth of between 500 and 700 feet hot water, with pressure enough to force it some 3 feet above the surface of the earth, was found. Near Kamegawa steam, mixed with water, is found, but toward Beppu the water gradually cools off, until about a mile from Beppu it becomes only lukewarm and unfit for use in bath—at least in baths such as the Japanese like.

A Glimpse of the Hereafter—Tsurumi Jigoku, Beppu, Japan.

Drilling Methods

The wells are drilled in much the same way as wells were drilled in the United States before rotary drills were invented, i.e., a hole is drilled by raising and dropping a drilling tool, and a casing is forced into the hole as it becomes deeper. But like all western methods in Japan (where even the flivvers are altered to seat 10 persons) the method of drilling has been altered to meet local means and local customs. The derrick is built of slender, unsawn cedar poles, lashed together with straw ropes and well guyed with steel wires to keep the typhoons from blowing it down. The upper third of the derrick is covered with straw matting to form a roof over the platform on which the men work and to cover the winding drum.

Instead of steel cables or Manila ropes to raise and lower the drill bit, these drillers use long strips of stout bamboo, an inch broad and about 20 feet long. These strips are fastened together at the ends with overlapping, notched joints to form a strip as long as the hole is deep.

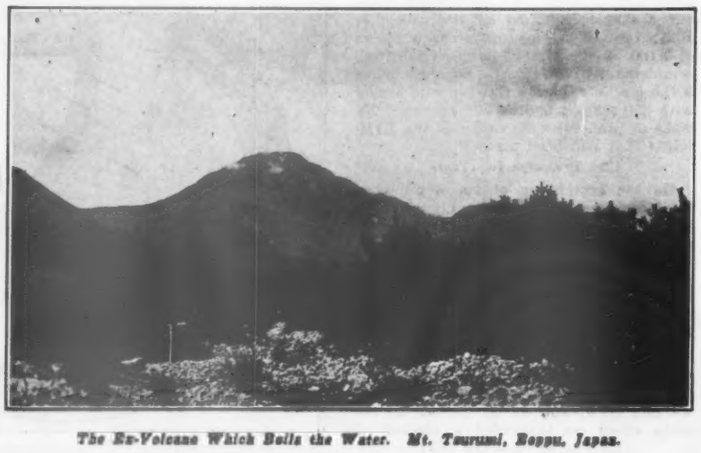
This Well Struck Hot Water

They say that bamboo is used instead of steel cables because it permits the workers to give a downward thrust to the drill which would be impossible with ropes or cables. And instead of steam or gasoline power, man power, aided by a curious bamboo spring shaped like a bow, is employed.

Use a Spring Bow

The spring bow is perhaps the most peculiar part of the outfit. It consists of a number of pieces of heavy bamboo, lashed together and fastened to the top of the derrick in such a way as to project some 12 or 15 feet to each side. The tension of the bow is just sufficient to hold the drill when suspended from ropes

But This Well Struck Only Steam



The Ex-Volcano Which Boils the Water. Mt. Tsurumi, Beppu, Japan.

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THE Parkersburg Eclipse Pitmans are the [illegible] ones on the market with self-aligning bea[illegible] boxes, which permit them to align themselves with the weaving motion of the walking beam.

The heavier Parkersburg Drilling Eclipse Pitman, recently designed and now available, is made from the same H-Beam as that of the pumping pitman, but is heavily reenforced at the wrist pin end.

Unlike the pumping pitman, the bearing box in the drilling pitman will not drop out when released from the wrist pin.

For complete information on these pitmans write for Section "E" - Catalog 26.

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When Real Results Are Wanted

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The driller made it a point to compare these boilers closely in every respect. His findings were as usual. He told us that the DONOVAN used far less fuel and yet it steamed more easily and held the pressure better. He said that as the well deepened, the DONOVAN was used more and more while the other boiler was shut down. This was because he found his DONOVAN more reliable and better able to furnish ample dry steam. The other boiler just couldn't produce.

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attached to the ends of the bow. The drill is thus hung in a state of equilibrium and can be easily raised and lowered a distance of a yard or more. When the drill is adjusted to the bow, an iron ring about 18 inches in diameter is fixed by means of wedges to the bamboo strip by which the drill is suspended, some 3 feet above the floor of the platform. Four men take position around the ring, another stands above them on a crossbeam of the derrick and a sixth below them on another crossbeam. The foreman starts up a chant and all together lift the drill and shove it down into the hole, making about one stroke every two seconds. On every second stroke, the drill is lifted higher and brought down with greater force, the intermediate strokes being accomplished more by the spring of the bow than by man power. The drill is raised and dropped a distance of 3 or 4 feet on the longest strokes. The chant, in which all the men join, is monotonous but not unmusical, and is timed so that each second stroke, when the men bring their weight down on the ring, is strongly emphasized.

When the drill has penetrated so far that the ring is too low to be easily handled, the top of the bamboo strip is unhooked from the bow and fastened to the circumference of the winding drum. This drum is about 10 feet in diameter and 4 feet broad, and is built with cleats around the inside, in order that the coolies, by climbing up one side, like squirrels in a cage, can make it revolve. Two men furnish sufficient power to haul up the drill and, by reversing the process and climbing down the drum, to lower the bailer or drill into the hole. After raising the drill and bailing out the hole (which is kept filled with water mixed with a sort of red clay) the drill is again lowered, the iron ring again fixed to the bamboo strip at a higher level, and the six-man power drilling outfit starts up again.

The system is primitive, but they are able to drill wells 600 or 700 feet deep with such outfits. The cost of such drilling, however, cannot be excessive, or large power drilling outfits, which are used in parts of Japan for drilling oil wells, would be used instead.

WELD HIGH PRESSURE NATURAL GAS LINE

(Continued from Page 119)

procedure that proved exceedingly efficient. The method was this: Five lengths of pipe were joined simultaneously, each man working on one of the four joints. The men welded from the bottom up for approximately 7 inches, and then a helper, who served them all, turned the pipe another 7 inches by the aid of a long chain tong pipe wrench. Again the welders started from the bottom and welded up and by a repetition of the process completed the circuit. The first bead completed, the second was laid in identically the same manner. All second welds were continued about one-half inch beyond the complete circumference so that there would be no possibility of low beads

One of the 11,000 welds made with a Lincoln Electric Co. Stable-Arc welder on the longest all arc welded gas line yet fabricated.

or pinholes at the place where the ends came together. When his joint was finished, each welder stamped it with his number.

By having four men weld at a uniform speed and simultaneously, three helpers were saved, and further than that, the standardization of method contributed a great deal to the uniform high quality of the joints.

The consecutive five-length units, made by the four operators, were joined by a bell-hole welder, working alone. The pipe could not be turned for his operation, so he did not need a helper. To permit his welding around the entire circumference, a hole was dug at each bell-hole joint.

Three Joints per Hour

Each man in the main crew could weld

The bell-hole man joining two sections together. Each section was comprised of five lengths of pipe.

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To handle a large quantity of gas at atmospheric pressure with only an ordinary quantity of oil.

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Gas and Oil Separator—

—the first separator designed to cope with this situation. This condition is encountered in many fields, but until the Lorraine Type "M" appeared, makeshift changes in existing separators had to do.

This new Lorraine embodies all the superior Lorraine features, together with many new ones. The governing floats are automatic in action—always accurate. Uniform regulation—always an even flow of gas and oil. Separation, as with all Lorraine models, is always clean and complete.

Sturdily built for long service, the Lorraine Type "M" requires minimum care and assures continuous satisfaction.

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one 7-inch joint every 15 minutes, but with the unavoidable loss of time the average was reduced to three complete joints per hour. Our stable-arc welders used about 1 gallon of gas per hour at a cost of 11½ cents per gallon and 6 quarts of lubricating oil every 55 hours of operation. We employed a helper to take care of the machines and provide electrodes for the welders. Our crew, then, was comprised of five welders at $1 per hour, two helpers at 25 cents per hour, a night watchman at 25 cents per hour and one pipe cleaner at 30 cents per hour. We employed the latter because of the heavy coat of asphaltum that was given the pipe at the mill. This asphaltum retarded the welding and had to be cleaned off. The most effective way we found of removing it was by applying Duco paint remover.

The cost per joint on welding a 7-inch pipe line was as follows:

Labor	$0.34
Interest on investment	.02
Depreciation	.01
Gasoline	.03
Lubricating oil	.01
Welding rods	.03
Overhead	.10
Transportation of men	.01
Freight on machines	.03
Total	$0.58

Tried Piecework

When 30 miles of pipe had been welded, without cracks or leaks, and practically no pinhole leaks, I decided to find the real speed with which arc welding could be carried on. To do that I offered to pay the welders on a piecework basis of 50 cents per joint, provided they would agree to reweld any joints that were condemned by the inspector. I watched the results of that change very closely on the next 5 miles and found that each welder made from 30 to 40 joints per 8-hour day. Nor was the quality of the welding jeopardized by the increase in speed. The owners' inspectors approved every weld; and on test of this section no leaks were found at 650 pounds pressure. I might note at this point that in the entire 45 miles and in the 11,000 joints we found but 14 pinholes and all of these were readily sealed.

Near the Lamkin end of the line the pipe had to dip under the Ouachita River. At the point of crossing the banks were 60 feet high. Pipe was bent so as to reach the bottom of the river. Then the sections were arc welded, one after another, and strung across on pontoons. To hold the pipe to the bottom, specially designed heavy cast-iron weights were bolted about the pipe. While the sections were being strung across, the ropes that held two of the pontoons broke away and the swift current carried them down the river about 60 feet. We thought that the joints would surely be broken, but after getting the pipe back in place we discovered every weld intact. Except for a few bends, the pipe was not damaged by the accident. When the span of the stream was made, the entire river section was lowered beneath the water.

On December 15, 1927, the pipe line was finished and in the ditch. From Lamkin to Hodge, 45 miles away, it stretched as a solid gas artery. It had been tested and accepted and there only remained the work of covering it over. Two weeks later, when about 20 miles still lay exposed in the trench, the line was subjected to one of the severest imaginable tests. On January 1, 1928, a northwestern storm swept Louisiana and the temperature dropped to 6 above zero. Everyone thought that the line would break somewhere under the contraction stress, but nothing happened, nothing was carried away. There was no sign of failure in all the 20 miles.

MEXICAN FIELDS

(Continued from Page 47)

them over 3,000 feet, with no showings of a favorable nature reported.

In the older fields, that have been well defined, suffice it that El Clarin sector of the northern fields, an eastern extension of Cacalilao, did not prove up to an earlier promise. In April, of the year past, it had a well in its Tortuga that showed for 10,000 bbls., but this flush production dropped quickly, and subsequent wells were disappointing. There was one other well that showed for 30,000 bbls., finished in the same month, but it stopped flowing in the next 30 days. Altamira, north of Tampico, was also disappointing. A few small producers and a number of dry holes was its contribution. North of Altamira, and just west of the Tampico-Monterrey line of railways, two tests were drilled during the year, say west of Columbus station. Both developed salt water.

In the Limon, west and south of Ebano, developed by the Marland interests, there was nothing but dry holes to record during the year. At the end of August operations stopped, and as the year ended no new work was in evidence.

In so far as the north fields are concerned but little is being done at this time. Say some 25 strings are in operation here and there in the old sectors, which is of little moment when the industry is considered as a whole.

In the south fields, Penn Mex Fuel Co. is the bright particular star at this time. Early in 1927 a well was brought in for 2,000 bbls. in San Isidro, say 12 kilometers southeast from the Alamo Pool of the Penn Mex, which indicated a swing of the structure to the east. During the last half of the year six wells were completed by Penn Mex in its Paso Real, between Alamo and San Isidro, the largest being rated for as much as 10 000 bbls. This was encouraging and will lead to more extensive development by the Penn Mex Fuel Co., which again commenced exporting oil from its Tuxpam terminal in December.

The year 1928 had scarcely entered ere Mexican Eagle Oil Co. drilled in a wildcat well in its Mecapepec, which is reported good for a head of 7,000 bbls. This Mecapepec is north of the old Furbero fields. A few days later, another interesting wildcat in the San Sebastian, (Lot 50), was reported for a showing at 2,813 feet. This test has not yet been tested, hence thus far it is an interesting question mark as it is well east of any economic production thus drilled east of the defined Chinampa-Amatlan line, say some 20 kilometers. There was some desultory drilling in this district back in 1913, the last test being reported finished in 1916, with some showings; but, when the latter year was considered, attention was focused then on the very prolific Chinampa-Amatlan line, hence this eastern district was neglected for several years.

Isthmus of Tehuantepec

The Isthmus of Tehuantepec, in which Mexican Eagle Oil Co., Ltd., is drilling did remarkably well in 1927. It drilled a total of 33 wells to completion in the year in question, in which 24 wells were finished in the pay. Its total production in the year was 2,769,768 bbls., which is the largest production it has had in many years.

Asphalt Shipments

Another feature of the year was the asphalt shipments, dispatched for export, which, by Mexican Eagle Oil Co., Ltd., totaled 1,730,149 bbls., the largest exportation of asphalt from Mexico in years. These shipments went practically to the ports of the seven seas.

Summary

In short, 1927 saw no wildcats of real worth finished apart from the notation on Mecapepec, and the possibility of the Lot 50, San Sebastian, which, de jure, belong to 1928. The older fields, both north and south, showed evidences of exhaustion that were unmistakable, notwithstanding the evidences of the drill in well completions, which, while outdone by 1926, nevertheless with a total of 569 wells shows how well the "combing" process was in evidence. The production was in best evidence in 1927 when say 5,911,543 bbls. was produced. From that month the cruve of production showed a steady decrease until the end of the year witnessed only a trifle over 4,000,000 bbls. in production. So ran the record. As this is written it continues to hold this "over 4,000,000 bbls.," etc., thanks to Penn Mex Fuel Co. in the south fields and the Mexican Eagle Oil Co., in the Isthmus country.

What 1928 will bring forth remains to be seen.

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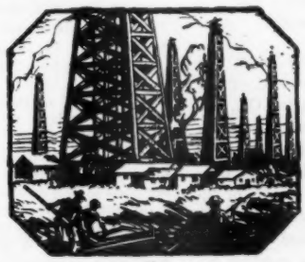

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Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

FURTHER DISCUSSION OF CASING COLLAPSE

An interesting and helpful letter has come from George T. Hoisington,, of the Halliburton Oil Well Cementing Co., following the recent publication of a question concerning casing trouble. The writer of the question told of his 8¼-inch casing collapsing at a depth of 2,650 feet. Mr. Hoisington's letter follows:

"The following is submitted with reference to the casing collapse troubles experienced by H. J. B. and outlined on the Field Problems page in your issue of March 8.

"He may overcome this trouble by cementing the 8¼-inch casing, using enough cement to extend from the casing shoe to a point well above the depth at which his collapse occurs as mentioned on page 42, Bureau of Mines Bulletin 232, Manual for Oil and Gas Operations, by T. E. Swigart and C. E. Beecher who say, 'Casing should be strong enough to allow the hole to be bailed dry with safety. In exceptionally deep wells, the allowable depths for various larger sizes of casing can be increased by the use of large amounts of cement which extend up into the hole back of the casing far enough to bring the effective depths within the safe limits for the particular casings being used.'

"In this connection the following casing jobs are mentioned: Near Billings, Okla., 4,240 feet of 32-pound 8¼-inch casing was set and cemented with 1,200 sacks of cement. This well was later completed as a dry hole and when abandoned, about 2,100 feet of the 8¼-inch casing was recovered, the casing below that point being cemented. Therefore, this operator had a safety factor of about 2½ with 4,240 feet set.

"Near Covington, Okla., 2,561 feet of 50-pound 12½-inch casing was set and cemented with 3,000 sacks of cement. Sixty feet of cement was left in the casing, and it was approximately 80 feet down to solid cement on the outside of this string. Or, so far as collapsing hazard was concerned, but 80 feet of casing was set in this hole.

"Probably an extreme illustration of the success of this kind was in a string of 3,890 feet of 17-pound, lapwelded 6⅝-inch casing set near Perry, Okla., and cemented with but 200 sacks of cement. This well was completed nearly one year later well below 5,200 feet in a 5-inch hole. This casing may be set at 1,474 feet with a safety factor of 2, or at 982 feet with a safety factor of 3. However, if properly cemented, 4,199 feet may be set with a safety factor of 2; 4,403 feet of 50-pound 12½-inch, and 5,906 feet of 32-pound 8¼-inch casing may be set with a safety factor of 2, if properly cemented."

DOODLEBUGOLOGY AS SEEN BY THE GEOLOGIST

Is it true that some persons have the ability, with the aid of a hazel twig or some other kind of stick, to locate deposits of water, oil, gas and other minerals? —F. N. A.

This question, on account of its peculiarly technical character, was submitted to a geological friend, who was good enough to provide the following answer:

"Being naturally of a very lazy disposition, and being further desirous of locating the aforesaid water, oil, gas and other minerals by means other than the customary process of walking from one rock to another out over the hills and pastures, I have been a very careful student of doodlebugology.

"I have discovered that there are several schools of thought in this science. One school which has a great number of followers believes that peach tree twigs give the most satisfactory results; others use hazel twigs; while those of a more catholic frame of mind insist that any type of twig will do. My studies have not convinced me as to which of these methods is the most desirable. Personally, I do not believe that there is special or added virtue in either the peach twig or the hazel twig. I might say that I am positively convinced that one variety of twig will do as well as another.

"It is unfortunately true that the average geologist in the employ of the oil companies has not been especially endowed by nature to an extent sufficient to allow him to use any other methods except such as are connected with a vast amount of work. It is probably true that if he were gifted to a special degree of clairvoyant powers he might be able to locate oil by the methods described in this letter.

"The only wildcat well that I know of which has produced oil and which was located by a doodlebug is the discovery well in the Rice County Field. It is unfortunate that the discoverer of this field has located numerous other tests in that general vicinity, no one of which produced any oil."

CONTINUOUS-RECORD GAS METER

Is there a displacement gas meter on the market where a continuous record of the pressure and volume is kept as there is with the orifice meter?—O. N. R.

One of the companies manufacturing displacement meters has a meter equipped with a recording gauge that sits on top of the meter. Continuous pressures and volumes are recorded on a chart. Different ranges of pressures may be obtained by changing the spring in the gauge.

USE OF GAS AND WATER IN OIL LINES

Have you any information on the use of gas or water in assisting the flow of oil through a pipe line? I understand that some companies have been doing some work along this line, but I have been unable to get any information on the subject.—M. B. G.

We have no specific data concerning recent tests along this line. One of the companies operating in southern California injected gas into a pipe line that was used for transporting oil to its refinery. No information as to the company's findings is available at this time.

As you probably know, an attempt was made about 20 years ago to utilize water in order to reduce the friction in the pipe line. A pipe line of so-called rifled construction was installed. The rifling feature consisted of a long spiral groove in the pipe. Approximately 10 per cent of water was added to the oil. This mixture, when introduced into the line at high pressure, swirled and the water on account of its higher specific gravity, was forced to the outside of the stream, hence the oil did not come in contact with the wall of the pipe. The friction of the oil on water being less than oil on metal made it possible to transport more oil through the line.

One great objection to the use of water is the forming of emulsions, especially in the lower gravity asphalt base oils. Emulsions would be formed with other types of oil and those of higher gravity, but not to the same extent.

The use of gas in reducing the viscosity reduces the skin friction of the oil on the metal and possibly to some extent, the internal friction When transporting the oil to a refinery the gas may be removed and used for fuel. Removing the gas would apparently necessitate the treatment of gas for the removal of the higher hydrocarbons. When gas is used to transport the oil to some other place, for example a tank farm, unless the gas is removed treated, a loss in gravity of the oil would result owing to the liberation of the gas which on leaving the oil would tend to scrub some of the higher hydrocarbons from the oil and these would be lost beyond recovery. It would also seem that there would be added pipe line losses when gas was used.

It is hoped that the results of the California tests will be made available to the oil industry in the near future as the information will be of great value to all engaged in the transportation of oil.

HERE'S A QUEER ONE

Some time ago I drilled a well with rotary down to about 2,000 feet and then drilled ahead to the top of the sand which was topped at 2,165 feet with cable tools. I intended to land a string above the top of the sand and to cement it there. When the casing was run in, it hung up at 2,110 feet. The pipe couldn't be moved up or down, yet circulation could be gotten. Finally after circulating for a while, the pipe was free, but circulation was lost. What I can't understand is why circulation was lost after the pipe was free.—C. F. T.

Your problem was certainly an unusual one and rather difficult to explain. In fact, any explanation would be merely an opinion as to the cause. Apparently circulation was obtained first through a relatively small opening when the pipe was frozen and this eventually increased sufficiently in size to free the pipe. Possibly caving formation then dropped down around the pipe, and while the pipe was permitted a certain amount of vertical freedom the fluid was temporarily held back. Continued application of pressure probably would have resulted in the reestablishment of circulation or in the pipe becoming frozen in place. If you have any later information on the problem or further ideas concerning the cause of this unusual condition, this office would be pleased to have you send them in.

CONCERNING THE VIOLA

Can you inform me if the Viola sand in the Seminole district contains paraffin? And do they usually go into the oil immediately after going through the Viola or have to drill several feet below it to get the oil in the Wilcox sand?—O. T. L.

The Viola is a lime formation and in the Seminole area it has not been found to contain oil in paying quantity, although in the Pearson district, about 18 miles southwest, a well with 1,500 bbls. flush production in the Viola was completed recently. The paraffin content in this well is small.

Between the Viola lime and the Wilcox sand lies the Simpson lime. A few relatively small wells in the Seminole Field are producing from the Simpson. The amount of drilling necessary to penetrate the Wilcox after going through the Viola depends obviously upon the thickness of the Simpson, which lies between these two strata. In the Seminole district the Simpson ranges in thickness from 2 or 3 feet to 50 or 60 feet. The Viola usually runs from 80 to 100 feet in thickness.

EDGE WATER EXPLAINED

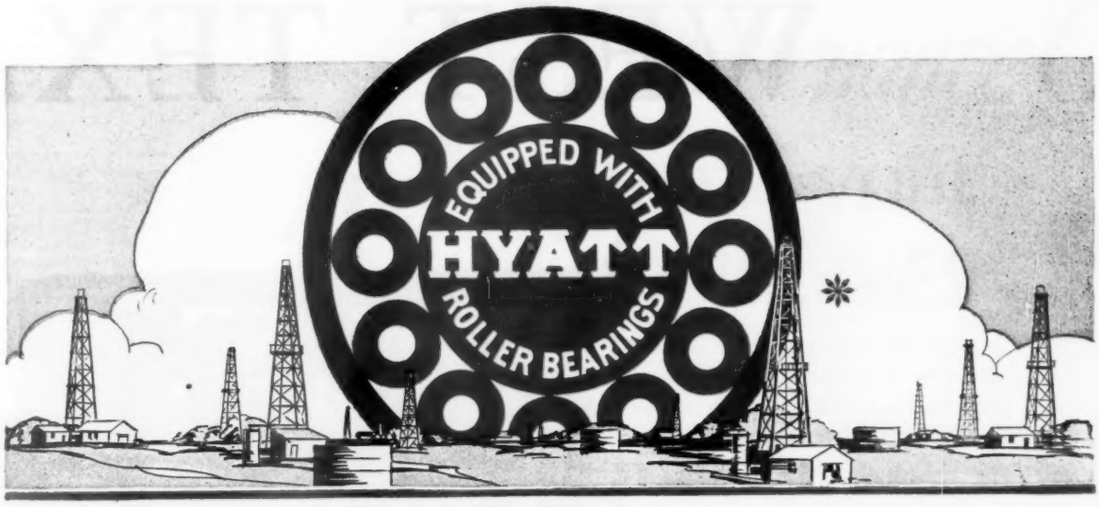
In different articles in The Oil and Gas Journal and other publications I see the term "edge water" used and I am not clear as to its meaning. Will you be good enough to explain it to me?—V. C. W.

Edge water refers to water occurring around the edges of a structure in a producing oil or gas sand. As oil or gas is withdrawn from the sand, edge water travels up the structure and occupies the interstices formerly occupied by the oil or gas. Thus wells located on the flanks or down the structure will begin producing water first. Unless controlled, the edge water will advance more rapidly in some parts than in others, hence the edge water line will be irregular. Because of the uneven rate of withdrawal of oil or gas, the edge water will travel up the structure faster where the oil or gas is removed most rapidly and under certain conditions, oil becomes trapped by the edge water beyond recovery.

ABOUT CATALYTIC AGENTS

In treating b.s. I have heard of catalytic agents used for this purpose. How do these agents accomplish this and what are some of them?—B. H. U.

When these so-called catalytic agents are added to cut oil or b.s. they tend to counteract the effect of the agent responsible for the permanence of the emulsification. Their action is physical rather than chemical. Some of the catalytic agents which may be used for this purpose are iron oxide, finely divided silica and clays, sodium soaps and starch. These substances have been used either alone or in conjunction with other methods of dehydration. It is said that the action of these agents is based largely on surface tension.



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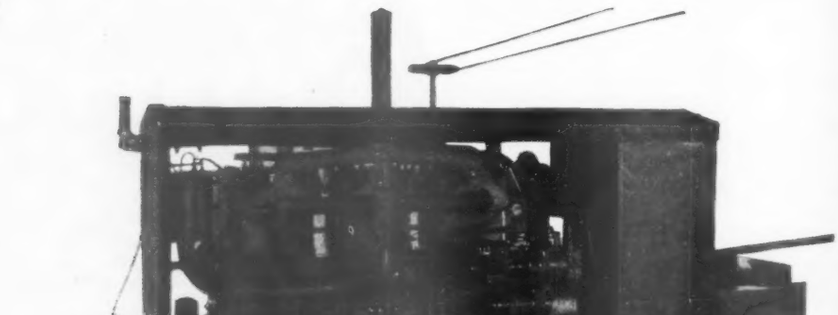

Down 5950 Feet And Still Going

F. S. Lane, drilling superintendent for the Magnolia Petroleum Company, has been using a Climax High-Speed "Paymaster" Drilling Unit on the W. E. Whitehead well No. 1, Val Verde County, Texas, near Del Rio. In a recent letter to Climax, he reports that this drilling unit has already reached a depth of 5950 feet—and that it is still drilling. The Climax High-Speed "Paymaster" is a 6-cylinder drilling unit with plenty of "stuff" for drilling—for pulling bail—and for pulling casing.

Where results Count
Of the 24 drilling wells in Howard County, Texas, 11 are using Climax High-Speed "Paymaster" engines. And in the Chalk Pool, over 50% of the wells are drilling with Climax High-Speed "Paymaster" drilling units.

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CENTRAL WEST FIELDS

(Continued from Page 56)

150 feet into the Trenton, but when the drill tapped 50 feet the well gradually filled up and made spasmodic flows, each time pouring out 11 bbls., and caused the shutting down of drilling operations for fear of running into a possible salt water sand. A tank was rushed up and the well allowed to flow its oil and a second tank was installed to care for the production. The flows came about an hour apart. The owners will leave the well as it is for a period and if necessary will drill it to a greater depth in the sand. Much leasing is being done and it may mean the drilling of a number of tests over a vast area of untested territory. The well is to the northwest of Tiffin not far from the town of Bascom. Territory for miles around the well has been taken under lease and leasers are hoping for a southwest extension to former production in the same township. No. 3 well of J. H. Murphy & Son on the Griffith-Leister farm, Section 20, Liberty Township, produced 20 bbls. when drilled to a depth of 130 feet in the sand. It is northeast of the new well on the Kimmett lease.

Ira A. Koos writes from Chattanooga, Okla., that he knows of a structure in western Ohio that has not been tapped by the drill for a tract 4 miles square and thinks it will develop as rich as the old Findlay Field in its palmy days. Mr. Koos is a rock hound from away back and was very familiar with the Lima Field in its early stages.

Indiana

William Bell and others, wildcatters of southwestern Indiana, have made another strike that extends production a short distance. The test is in the southeast corner of the Collie Snyder farm, in the northeast quarter of Section 1, Washington Township, Gibson County. Top of sand was found at 1,541 feet and drilled 20 feet in, produced an initial of 23 bbls. the first 24 hours.

In Clay Township, Pike County, A. B. Bement's No. 6 in the northwest corner of the C. Waltz farm, in the northeast quarter of Lot 14, proved a dry hole at a depth of 1,360 feet.

Leasing has been quite active in the extreme southern end of the State as Kentucky operators are invading the area north, northeast and northwest of Owensboro, as they expect the present Tri-County Field of Kentucky will cross over into Indiana.

Illinois

Only one completion was reported from the Illinois fields during the week, being a second test by W. C. McBride, Inc., 1,400 feet from the south line and 200 feet from the east line of the J. Connolly farm, in the NE of Section 2, Johnson Township, Clark County, which produced an initial of 20 bbls. from the shallow sand at 550 feet. Like Martinsville Township, of the same county, the Johnson territory also has a deeper pay which is found in the Trenton, which runs from a depth of 2,400-3,000 feet, some wells in Martinsville Township being drilled to the Trenton. In that township a stray sand is found between the shallow sand and the Niagara lime, or about 200 feet above the Niagara.

In Wabash Township, Wabash County, T. L. Andrews has abandoned No. 6 on the Biehl heirs farm, Section 4, a couple of miles west from Allendale, and in what is known as the Biehl Pool, drilled quite a few years ago. This county is at a low ebb so far as new work is concerned owing to bad weather conditions. In Friendsville Township, same county, Henninberg and others have abandoned their No. 1 on the B. Liddle farm, Section 27, a short distance southwest from the town of Friendsville and a mile or so in advance to the southwest of production. This well had a light showing when drilled in close to a year ago, but was not worth the expenditure of tubing and putting on the pump.

Central Ohio

Work is moving steadily forward in the new Jeromesville shallow Berea sand field, in Mohican Township, Ashland County, in the Central Ohio Field. This new pool was recently opened by Robinson Brothers, of Westerville, Ohio. This firm has drilled in a test on the Alman Austin farm, Section 9, about one-half mile south of production, topping the Berea sand at 541 feet and drilling to a total depth of 582 feet, getting a 30-bbl. initial producer of a very fine grade crude. This well proves quite a strip of excellent looking shallow territory. Glass and Hazelett, of Newark, Ohio, have made location for an immediate test on the Lewis Miller 160 acres, Section 31, Mohican Township, and are shipping in a string of tools from Licking County. F. M. Rugg, of Newark, has made a location on the Watson Atterholt 70 acres, Section 31, same township. Rugg & Robinson have location for No. 1 on the David Leidigh 320 acres, Section 30. George Vantilburg and others of Ashland, Ohio, are starting a well on the George Black farm, Section 33, same township. J. H. Harmon and others, Mansfield operators, have moved drilling tools to the J. M. Wolf 148 acres, Section 3, same township, near the good well of Robinson Brothers, on the McFadden 20 acres, which is in Section 30. A number of operators are looking over the new field daily and much drilling is assured. This new Jeromesville Field very closely resembles the famous Lodi Berea Field of Medina County, and with good weather will see a large block of acreage being tested by the drills that are coming in almost daily.

In Hanover Township, Ashland County, the Logan Gas Co.'s test, 660 feet from the south and east lines of the Samuel Hay 80 acres, Section 29, failed to show either oil or gas in commercial quantities and was given up as a dry hole. Same company has started the drill at a test 590 feet from the south line and 660 feet from the west line of the W. A. Sharp 60 acres, Section 20, same township. Same company made a location for No. 6 well, 660 feet from the south and west lines of the P. C. Cowan 30 acres, Section 20, Green Township, same county, and the Kemrow company is drilling a test 425 feet from the west line of the J. M. Fluke 130 acres, Section 15, Orange Township, same county, and 600 feet east of the highway. The Logan Gas Co. is drilling a test 660 feet from the north and east lines of the Lewis A. Balm 80 acres, Section 12, Clear Creek Township, same county.

Medina County

In Medina County, Lafayette Township, the Logan Gas Co. set a stake for a test 900 feet from the north and east lines of the Ira A. Kreiger 81 acres, Section 7, and also made a location for a test 850 feet from the south line and 1,250 feet from the east line of the W. F. Shafer 100 acres, Section 16, Liverpool Township, same county.

In the Wooster Field, Cannan Township, Wayne County, the Ohio Fuel Gas Co.'s test, 900 feet from the south line and 660 feet from the west line of the H. W. Gaul 61 acres, Section 34, is credited with being a 5-bbl. producer. The Logan Gas Co. made a location for a test 660 feet from the north and west lines of the A. B. Garn 40 acres, Section 7, Congress Township, same county.

In Holmes County, the Logan Gas Co.'s test, 660 feet from the north and east lines of the John Mullet 105 acres, Section 24, Richland Township, is reported showing for 15 bbls., while the Kemrow company's No. 1 on the M. V. Purdy farm, Section 17, same township, is credited with 3,250,000 feet of gas at a depth of 3,340 feet.

In Coshocton County, Perry Township, the Preston Oil Co.'s No. 4 on the E. R. and O. M. VanWinkle 187 acres, Section 15, is reported at 105 bbls. initial. Sand was found at 3,119-172 feet and drilled to a total of 3,176 feet and the well produced naturally.

In the Cleveland Field, Olmstead Township, Cuyahoga County, Hulse & Kundtz drilled a dry hole in a test in the northeast corner of the F. Bidderelph five acres, Lot 21, which was dry. McGrath and others are drilling a test 650 feet from the north line and 30 feet from the east line of the C. Doerner 10 acres, Lot 29.

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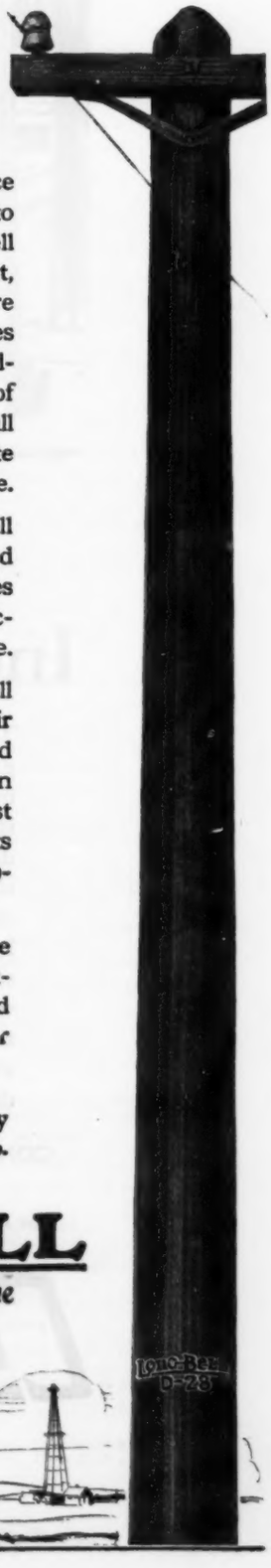

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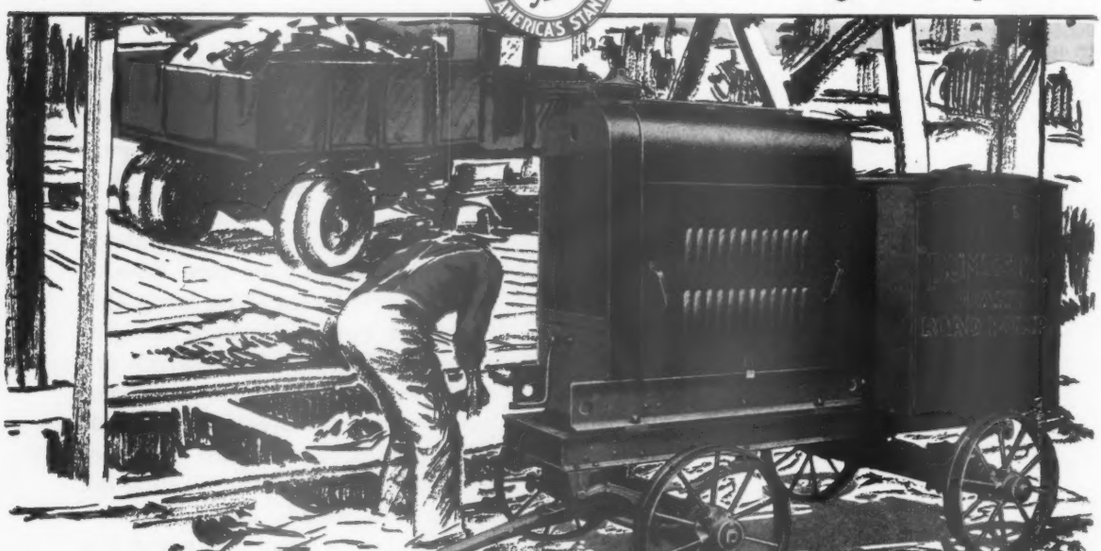

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WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 38)

Failing et al's No. 1 Gorsuch, SE cor. SE Sec. 14-24-3w. Swedging pipe 4,745 ft.
Fleming and others' No. 1 Wengert, NW cor. NW Sec. 9-22-5w ..... Shut down 750 ft.
Beopple and others' No. 1 Schweer, C SW NE Sec. 12-21-4w ..... Shut down 1,850 ft.
Marland and Barnsdall's No. 1 Looman, NE SE Sec. 9-20-4w ..... Fishing 5,740 ft.
Marland Oil Co.'s No. 1 Miller, SW cor. SW Sec. 12-20-4w ..... Shut down 4,586 ft., waiting on test Sec. 9-20-4w.

ELLIS COUNTY

Oklahoma Northern's No. 1 Young, NW cor. NW Sec. 9-21-25w ..... Fishing 300 ft.
Hoffman and others' No. 1 Ottes, NW cor. NE Sec. 20-15-8w ..... Rig blown down

NOBLE COUNTY

Barnsdall Oil Co.'s No. 1 Bumberger, NE cor. NW SE Sec. 11-21-1 ..... Cellar.

KINGFISHER COUNTY

Slick & Harrington's No. 1 Cromer, SE cor. NE NE Sec. 25-19-5w ..... Location.
H. H. Morgan's No. 1 Buscon, SW cor. SE NE Sec. 30-16-6w ..... Shut down 1,610 ft.
Gait-Brown Oil Co.'s No. 1 Wolff, NW SE Sec. 6-16-7w. Drilling 2,450 ft.
McKinney & Crawford's No. 1 Sturgeon, NE cor. SW Section 27-16-6w ..... Drilling 4,108 ft.
Wiley & Manahan's No. 1 Johnson, C NW Sec. 26-16-5w. Shut down 4,512 ft.
Reiter-Foster Oil Co.'s No. 1 Unknown, SW cor. SE Sec. 23-15-5w ..... Rig.

LOGAN COUNTY

Champlin Refining Co.'s No. 1 Clark, SE cor. SW Sec. 8-19-4w ..... Underreaming 4,895 ft.
Sinclair Oil & Gas Co.'s No. 1 Webber, SE cor. SE Sec. 18-19-4w ..... Drilling past pipe 4,500 ft., total depth 4,808 ft.
Huckaby & McCoy's No. 1 Perfect, NE cor. NE Sec. 9-18-5w ..... Shut down 3,270 ft.
Haley & Smith's No. 1 Guier, SE cor. SW Sec. 33-18-3w. Cleaning out 3,770 ft.
Garber & Pulse's No. 1 Widdoes, NE cor. SE NW Sec. 32-18-3w ..... Shut down 1,200 ft.
T. B. Slick's No. 1 Bryan, SW cor. SE Sec. 28-17-1 ..... Plugging back to sand 5,630 ft.
Willis and others' No. 1 Sweezy, SW cor. NW SE Sec. 20-17-3 ..... Shut down 4,677 ft.
W. R. Ramsey's No. 1 McMillan, NW SW Sec. 24-15-2w... Hole full of water 4,507-4,517 ft shut down for orders.
Bu-Vi-Bar's No. 1 Kirkpatrick, NE SW SW Sec. 12-15-1w. Shut down 4,504 ft.

BLAINE COUNTY

Lowen and others' No. 1 Unknown, NW cor. SW NW Sec. 37-16-11w ..... Spudded and shut down

MUSKOGEE COUNTY

Finefield and others' No. 1 Jobe, NE cor. NW SE Sec. 12-15-18 ..... Drilling 1,500 ft.
J. R. Parks No. 1 Beuge, CWL NE NW Sec. 13-15-19 ..... Drilling 830 ft.
Elk Drilling Co.'s No. 1 Jones, SW cor. SW Sec. 34-12-17 ..... Spudded and shut down
L. T. Haney's No. 1 Mitchell, SE cor. NW SE Sec. 33-13-18 ..... Drilling 1,700 ft.
Rolestone and others' No. 1 Hixon, CNL SE NE Sec. 1-17-19 ..... Drilling 1,965 ft.
J. L. Slusher's No. 1 Johnson, NE cor. SW NW Sec. 20-15-20 ..... Machine.

HUGHES COUNTY

Texas-Pacific Coal & Oil Co.'s No. 1 Stewart, SW cor. SE Sec. 11-5-8 ..... Casing 2,550 ft.
W. J. Monahaim's No. 1 Pusby, C NW NE Sec. 14-4-9.... Location.
Noble Oil & Gas Co.'s No. 1 Wickett, SE cor. SE Sec. 20-5-9 ..... Fishing tools 1,223 ft.

OKLAHOMA COUNTY

Cromwell Oil & Gas Co.'s No. 1 Proctor, C SE Sec. 21-14-3w ..... Shut down 4,075 ft.
Slick & Bailey's No. 1 Koester, C SE NE Sec. 18-13-3w... Rigging up standard tools and shut down 3,800 ft.
Cromwell & Franklin's No. 1 Thompson, SW cor. NE NE Sec. 15-12-3w ..... Fishing 6,840 ft.
Cromwell & Franklin's No. 1 Gross, SW cor. NE SW Sec. 22-10-2w ..... Shut down 4,702 ft.

CREEK COUNTY

Lima O. & G. Co.'s No. 1 Grayson, NW cor. NE NE, Sec. 11-14-7 ..... Shut down 3,650 ft.; will probably abandon.

CANADIAN COUNTY

T. B. Slick and others' No. 1 Pazowrech, NW SE Sec. 29-13-5w ..... Hole full of water 4,338-4,452 ft shut down 4,580 ft.
Ramsey Brothers' No. 1 Newman, CSL NE Sec. 9-11-7w.. Drilling 4,400 ft.

LINCOLN COUNTY

Bu-Vi-Bar Petroleum Co.'s No. 1 School Land, C NE SE Sec. 16-13-4 ..... Shut down 4,500 ft

OKFUSKEE COUNTY

Prairie Oil & Gas Co.'s No. 1 Gray, SW cor. SW Sec. 19-11-7 ..... Drilling 4,800 ft.
Moose & Daniels' No. 1 Stidham, SW cor. NW Sec. 4-11-10 ..... Shut down 622 ft

SEQUOYAH COUNTY

Hunt and others' No. 1 Unknown, SE cor. NW SW Sec. 12-12-23 ..... Rigged up and shut down
Citizens Gas Co.'s No. 1 Greenstreet, SW cor. NE SE Sec. 33-12-27 ..... Sand 1,200-15 ft.; 750,000 ft. gas completed.

POTTAWATOMIE COUNTY

Shaffer-Kilgore-Sykes' No. 1 Ives, C SE SE Sec. 12-10-3 ..... Drilling 5,250 ft.
Prairie Oil & Gas Co.'s No. 1 Lumbley, SW NW SE Sec. 1-10-5 ..... Dry and abandoned 4,780 ft.
Central Commercial Oil Co.'s No. 1 McCrain, NW cor. NE SW Sec. 16-10-5 ..... Dry and abandoned 4,791 ft.
Superior Oil Co.'s No. 1 Herminghausen, SW cor. NW NE, Sec. 24-8-2 ..... Cleaning out 4,320 ft.
Davy & Detrick's No. 1 McGehee, SW SE NW Sec. 16-6-2 ..... Fishing 4,998 ft.
Amerada Pet. Corp.'s No. 1 Gravel, SW SE NE, Sec. 1-8-4 ..... Drilling 4,215 ft.

CADDO COUNTY

Magnolia Petroleum Co's No. 1 Shelby, SW cor. SW Sec. 28-10-12w ..... Drilling 2,207 ft.
J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w.... Shut down 150 ft
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w ..... Shut down 3,394 ft.

OSAGE COUNTY

Prairie Oil & Gas Co.'s No. 1, SE cor. NE Sec. 11-24-6.... Shut down 3,084 ft.
Devonian Oil Co.'s No. 1, NW cor. SE Sec. 18-22-8 ..... Drilling deeper 2,995 ft

SEMINOLE COUNTY

T. B. Slick's No. 1 School Land, SE cor. SE Sec. 16-6-5... Drilling 600 ft.
Roxana and Barnsdall's No. 1 Stidham, NW cor. NE Sec. 6-10-7 ..... Location
Prairie Oil & Gas Co.'s No. 1 Davis, NE SE Sec. 21-10-7.. Rig.
Prairie Oil & Gas Co.'s No. 1 Varnum, NW cor. SW SW Sec. 5-9-6 ..... Cleaning out 4,335 ft.
The Texas Company's No. 1 Reed, SW cor. SW Sec. 12-8-5 ..... Wilcox sand 4,720 ft; hole full water; probably will abandon.
Twin State Oil Co.'s No. 1 Walker, NE cor. NE Sec. 5-7-6 ..... Rig on ground.
Simon & Bean's No. 1 Palmer, SE cor. NW NE Sec. 7-7-6 ..... Rigged up and shut down
Barnsdall Oil Co.'s No. 1 Guinn, SW cor. SW Sec. 16-7-5.. Location.
Indian Terr. Ill. Oil Co.'s No. 1 White, NE cor. NE SW Sec. 21-7-5 ..... Rig.
Reiter-Foster Oil Co.'s No. 1 Coat, SW cor. NW SW Sec. 14-7-6 ..... Spudding.
Indian Territory Illuminating Oil Co.'s No. 1 Marshall, NW NW SW Sec. 32-7-7 ..... Drilling 4,769 ft.
Magnolia Petroleum Co.'s No. 1 Vierson, SE SE NW Sec. 8-8-7 ..... Drilling 3,720 ft.
Gardner Petroleum Co.'s No. 1 Unknown, NW cor. SE Sec. 36-6-7 ..... Dry and abandoned 3,008 ft.
Fuhrman Petroleum Co. and Superior Oil Co.'s No. 1 Davis, SW SW SE Sec. 3-10-6 ..... Location.
C. & H. Petroleum Co.'s No. 1 Barnes, SW cor. NW NE Sec. 32-9-22w ..... Shut down 3,600 ft.
Pferffel and others' No. 1-A Carter, NE cor. NE Sec. 35-9-22w ..... Shut down 300 ft.

GRADY COUNTY

Remington and others' No. 1 Fryrear, SW SW NE Sec. 13-9-5w ..... Shut down 720 ft.; may start up soon.
Bedner and others' No. 1 Willis, C SW NW Sec. 13-7-5w ..... Shut down 2,450 ft.
Nichlos & Page's No. 1 Drake, SE NE SE Sec. 7-5-7w... Shut down 1,900 ft.
Wirt Franklin Petroleum Co.'s No. 1 Garden, SE cor. SW NE Sec. 1-4-7w ..... Sand 2,002-12 ft.; 1,000,000 ft. gas.
Commercial Development Co.'s No. 1 Chrisman, C NE NE Sec. 21-4-7w ..... Spudded.
Magnolia Petroleum Co.'s No. 1 Pursley, SE SW NW Sec. 8-4-6w ..... Dry and abandoned 3,905 ft.

MINTOSH COUNTY

Marlone Oil Co.'s No. 1 Sanders, NW cor. NE SW Sec. 10-9-18 ..... Shut down 2,250 ft.

CLEVELAND COUNTY

Daniels & LeWright's No. 1 Vandever, C SW Sec. 10-7-1w ..... Shut down 2,975 ft.

KIOWA COUNTY

Blue Mountain Oil Co.'s No. 1 Jones, SE cor. NW NW Sec. 17-5-14w ..... Shut down 460 ft.
Gould and others' No. 1 Patton, NW cor. SW SE Sec. 17-5-14w ..... Shut down 380 ft.
Johnson & McDowell's No. 1 Thompson, SW cor. NE Sec. 6-6-15w ..... Rig and tools.
Dave Malernec's No. 1 Van Kirk, NW cor. NW Sec. 35-7-15w ..... Rig and tools.
A. C. Varner and others' No. 1 Bonham, CSL NW NW Sec. 5-6-18w ..... Shut down 1,127 ft.

PONTOTOC COUNTY

Gillespie & Gant's No. 1 Taylor, SW SW SE Sec. 12-5-4 ..... Sand 2,818-52 ft., water; plugged back 2,570 ft., shot 80 and 20 quarts; swabbed 29 bbls.; shut down
T. B. Slick's No. 1 Barnett, NE SE NW Sec. 13-5-6 ..... Bad hole, 2,916 ft.
Sinclair Oil & Gas Co.'s No. 1 McDaniel, NE cor. NE Sec. 17-5-6 ..... Drilling 3,620 ft.
Mid-Continent Petroleum Corp.'s No. 1 Harjo, SE NE NE Sec. 14-5-7 ..... Sand 2,618-22 ft.; 10,000,000 ft gas.
T. B. Whitney and others' No. 1 Moore, SW cor. SE Sec. 17-5-9 ..... Shut down 2,654 ft.
Winkler and others' No. 1 Tiner, C SW SE Sec. 21-5-9... Shut down 2,761 ft.
R. F. Garland's No. 1 Strickland, SW NW SW Sec. 10-4-3 ..... Shut down 2,650 ft.
Marland Oil Co.'s No. 1 Lawrence, C SW SE Sec. 10-4-4.. Drilling 2,139 ft.
C. J. Shervin and others' No. 1 Wright, NW NE NE Sec. 13-4-6 ..... Shut down 1,925 ft.
Boles and others' No. 1 Rayburn, SW SW Sec. 35-4-6 .... Shut down 1,340 ft.
J. E. Crosbie's No. 1 Nowabbi, SE NE SW Sec. 8-4-7..... Testing sand 1,044-54 ft.; show oil. es.imated 60 bbls. day.
Texas-Pacific Coal & Oil Co.'s No. 1 Stewart, C SW SE Sec. 11-5-8 ..... Drilling 2,260 ft.
Henry and others' No. 1 Gregg, SW SE NW Sec. 14-4-7... Shut down 1,090 ft.
Oklahoma Portland Cement Co.'s No. 1 Mathews, C SW NW Sec. 24-4-7 ..... Drilling 1,790 ft.

GARVIN COUNTY

Dixie Oil Co.'s No. 1 Perkins, SE NW Sec. 15-4-1 ..... Drilling 4,880 ft.
Magnolia Petroleum Co.'s No. 1 Vaughn, NW SW NW Sec. 12-3-1 ..... Drilling 5,120 ft.
Heath & Bauman's No. 1 Hatfell, SW SE SW Sec. 10-3-2 ..... Shut down 1,640 ft

COMANCHE COUNTY

Jolly-Gore Oil Co.'s No. 1 Neeley, SE NE Sec. 24-3-10w.... Drilling 2,370 ft.
Ashcraft and others' No. 1 School Land, SE cor. SE Sec. 20-2-10w ..... Broken sandy lime 822-954 ft.; swabbed 3 bbls.; total depth 975 ft.; shut down; material moved out.
Jenkins and others' No. 1 Smith, SW cor. SE SE Sec. 34-1-10w ..... Shut down 1,530 ft.
Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w.. Cleaning out 3,310 ft.

COAL COUNTY

McGraw and others' No. 1 Patton, SW SE NE Sec. 35-1-8 ..... Drilling 1,120 ft.
Indian Territory Illuminating Oil Co.'s No. 1 Harris, SW cor. NW Sec. 10-1-11 ..... Fishing 1,630 ft.

OKLAHOMA PANHANDLE
CIMARRON COUNTY

Phillips and others' No. 1 Unknown, NW cor. NW Sec. 24-6-2 ..... Shut down 4,340 ft.
Sinclair Oil & Gas Co.'s No. 1 School Land, NW cor. NW Sec. 22-5-2 ..... 4,872 ft., will plug.
Ramsey Brothers' No. 1 School Land, NE SW SW Sec. 21-5-5 ..... Drilling 3,755 ft.
Ramsey Brothers' No. 1 Unknown, NW NE Sec. 27-5-4... Shut down 4,100 ft.
Ramsey Brothers' No. 1 School Land SE SE Sec. 34-4-1.. Drilling 3,850 ft.
Gladys-Belle Oil Co.'s No. 1 Iserial, SW NE Sec. 26-3-7.. Plugging 4,392 ft.
Valerius & Wilkinson's No. 1 Unknown, SE cor. NE Sec. 25-3-7 ..... Drilling 2,545 ft.
H. F. Wilcox Oil & Gas Co.'s No. 1 Zea, NE SE SW Sec. 28-3-13 ..... Shut down 3,765 ft.
Skaer and others' No. 1 Mathis, SW NE NE Sec. 17-3-23.. Shut down 3,227 ft.
Ross Fenton and others' No. 1 Graves, NE NE Sec. 2-2-9.. Spudded and shut down

TEXAS COUNTY

Danner Oil Co.'s No. 1 Graves, NE cor. SW SW Sec. 23-2-18 ..... Shut down 700 ft.
Newsom and others' No. 1 Allison, SE SW Sec. 4-1-12..... Shut down 4,040 ft.
Dotton and others' No. 1 Baker, C NW Sec. 4-1-13 .... Rig blown down.
H & H Oil Co.'s No. 1 Hitch, NE cor. NE Sec. 26-1-15... Shut down 600 ft.
Three Way Oil Co.'s No. 1 Cane, SW NW Sec. 11-1-18.... Hole full of water at 3,318-58 ft.; shut down.
Conley and others' No. 1 Unknown, SE cor. NW Sec. 5-1-19 ..... Spudded and shut down.
Texas County Gas Co.'s No. 1 Bacon, C NE NE Sec. 17-3-15 ..... 10,000,000 ft. gas 2,606-42 ft.

SOUTHERN OKLAHOMA
BRYAN COUNTY

Green Oil & Ref. Co.'s No. 1 Kemp, SE cor. NW NW Sec. 28-8s-9 ..... Shut down 600 ft
Alexander & Oppenheimer's No. 1 Hampton, SE cor. NE Sec. 26-7s-11 ..... Shut down 1,425 ft

JEFFERSON COUNTY

J. R. McCoy and others' No. 1 Smith, SE cor. NW Sec. 14-7s-6w ..... Rigged up and shut down
W. Bassett's No. 1 Johnson, NE NW Sec. 15-8-8w ..... Location.
Amerada Petroleum Co.'s No. 1 Emerson, NW cor. SE SW Sec. 28-5s-8w ..... Rigging up.

CHOCTAW COUNTY

Hugo Gay's No. 1 Smith, SE cor. SW NW Sec. 27-6s-16... Shut down 1,540 ft
Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-19 ..... Shut down 1,346 ft

TILLMAN COUNTY

Bray and others' No. 1 Barker, NE cor. SW NW Sec. 9-1-15w ..... Drilling 650 ft
A. N. Pearson's No. 1 Mounts, SW cor. SW Sec. 2-5s-15w.. Rig.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-16w ..... Shut down 2,350 ft.

MARSHALL COUNTY

Laurel Oil & Gas Co.'s No. 1 Chasine, SE NW Sec. 26-4s-5 ..... Shut down 3,145 ft
Magnolia Petroleum Co.'s No. 1 Marshall, SW cor. NW SW Sec. 26-5s-7 ..... Drilling 600 ft.
Alter and others' No. 1 Brown, NE cor. NW NW Sec. 11-4-6 ..... Drilling 218 ft.

STEPHENS COUNTY

Pierce & Brown's No. 1 Garland, SE NW NE Sec. 34-2s-4w ..... Shut down 1,700 ft
Ward, Martin & Smythe's No. 1 Vestal, NE cor. SE Sec. 7-3-7w ..... Rig.

JOHNSTON COUNTY

McPherson and others' No. 1 Wyand, CSL NE NW Sec. 7-2s-9 ..... Shut down 4,440 ft
Wapanucka Oil Co.'s No. 1 Banks, Sec. 28-2s-9 ..... Shut down 1,530 ft

CARTER COUNTY

Grooms and others' No. 1 Morris, CSL NW NE Sec. 19-1s-2w ..... Shut down 3,463 ft

MURRAY COUNTY

Thompson Oil Co.'s No. 1 Freeman, SE cor. Sec. 27-1s-3.. Rig.
Gilcrease Oil Co.'s No. 1 Wolf, SE cor. NE Sec. 29-1-3 .... Drilling 975 ft.
Revels & Magee's No. 1 Labor, NW cor. NW Sec. 17-1-3.. Shut down 240 ft.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 34)

Gibson Oil Corp.'s No. 9 J. B. Bowers, NE cor. Sec. 92, Blk. B-2, H.&G.W. Sur. — Fish. for 5-inch. csg., 2,733 ft.

Gibson Oil Co.'s No. 1 G. Pierce, SE cor. Sec. 149, Blk. B-2, H.&G.N. Sur. — Cellar.

Gulf Prod. Co.'s No. 4 J. B. Bowers, SE SW SW, Gulf lease in Sec. 89, Blk. B-2 — G.W., 2,922 ft. showing oil.

Gulf Prod. Co.'s No. 5 J. B. Bowers, SW SE SW, Gulf lease in Sec. 89, Blk. B-2 — Drlg. plug, 3,926 ft.

Gulf Prod. Co.'s No. 1 M. Davidson-A, 330 ft. from S and E lines of NW cor. E half NW, Sec. 87, Blk. B-2, H.&G.N. Sur. — C.O., 3,088 ft.

Gurnsey Oil Co.'s No. 2 B. E. McKinney, Sec. 163, Blk. 3, L&G.N. Sur. — Show oil, 3,025-30 ft; drlg., 3,340

Hardendorf Drlg. Co.'s No. 1 G. A. Henderson, NE E half NE, Sec. 47, Blk. 25, H.&G.N. Sur. — Run. 10-in. csg., 590 ft.; S.D.

Hickory O. & G. Co.'s No. 1 Lester, SE cor. NE NW, Sec. 1, Blk. 1, A.C.H.&B. Sur. — Rig.

Lefors Pet. Co.'s No. 2 J. M. Shaw, NW cor. T. Leach Sur. — Spudding.

McAuley et al's No. 1 Morse, SE cor. N half, Sec. 3, Blk. 26, H.&G.N. Sur. — Spraying 20 bbls. daily at 2,386-2,407 ft.

McElroy Oil Co.'s No. 1 M. B. Davis, NE cor. S 240 acres of E half, Sec. 12, Blk. 1, A.C.H.&B. Sur. — Rig.

Majestic Oil Co.'s No. 4 J. B. Bowers, SW cor. E half, Sec. 92, Blk. B-2 — Cmt. 8¼-in. csg., 2,982 ft.

Majestic Oil Co.'s No. 6 J. B. Bowers, Sec. 89, Blk. 2-B.. — S.O., 3,700 ft.; show wtr., 3,450-55 ft; drlg., 3,908 ft.

Magnolia Pet. Co.'s No. 1 J. Bowers — Made 400 bbls. daily from G.W., 2,853-55 ft.; C.O., 2,890 ft.

Magnolia Pet. Co.'s No. 1 W. Harrah, NW cor. NW, Sec. 150, Blk. 3, H.&G.N. Sur. — Location.

Magnolia Pet. Co.'s No. 1 J. J. Wall, NE cor. Sec. 162, Blk. 3, L&G.N. Sur. — S.O.&S.G., 3,190-3,202 ft.; show oil 3,335 ft.; swb. 8 bbls. per hr., 3,-335-53 ft., 4% b.s. and wtr; shot with 90 qts., 3,300-20 ft; bridged and C.O.

Operators Oil Co.'s No. 2 W. Jackson, NW cor. N ½ NE, Sec. 88, Blk. B-2 — Swbd. 1,300 bbls., 2,868 ft; to d.d.

Osborn et al's No. 1 E. E. Barrett, SE cor. NE, Sec. 111, Blk. 3, L&G.N. Sur. — Drlg., 550 ft.

Osborne et al's No. 1 J. S. Morse, SW cor. SE, Sec. 1, Blk. 26, H.&G.N. Sur. — Rig on ground.

J. T. Parks' No. 1 N. H. Reed, NE cor. W 236 acres, N half, Sec. 1, Blk. B-2, H.&G.N. Sur. — Location.

Pampa Oil Co.'s No. 1 W. R. Campbell, Sec. 90, Blk. 3.. — 700 ft. wtr., 3,430 ft.; S.D., 3,422 ft.

Phillips Pet. Co.'s No. 1 Davidson (Myson) — Drlg., 3,034 ft.

Phillips Pet. Co.'s No. 2 Davidson (Myson) NE cor. NW NW, Sec. 87, Blk. B-2, H.&G.N. Sur. — Run 8¼-in. csg., 2,770 ft.

Phillips Pet. Co.'s No. 3 Jackson-Riley, Sec. 88, Blk. B-2, H.&G.N. Sur. — Recmntd. 12½-in., 1,027 ft.; 6,-000,000 ft. gas, 2,590-2,635 ft; cmt. 8¼-in. csg., 2,857 ft.; drlg., 3,047 ft.

Phillips Pet. Co.'s No. 4 Jackson-Riley, SE cor. W half SW, Sec. 88, Blk. B-2 — Drlg., 775 ft.

Plains Drlg. Co. and Ray's No. 1 A. Chapman, SE cor. SW NW, Sec. 50, Blk. A-9, H.&G.N. Sur. — Spud.

Plains Drlg. Co.'s No. 2 A. Chapman, NE cor. E half NE, Sec. 20, Blk. 1, A.C.H.&B. Sur. — Rotary rig.

Plains Drlg. Co.'s No. 2 A. Davis, 990 ft. N. and 330 ft. W. SE, Sec. 24, J. Davidson Sur. — Spudding.

Purple Sage Oil Co.'s No. 2 E. B. Johnson — 2,000,000 ft. gas; fish., 2,560 ft.

Ray & Massie's No. 1 A. Chapman, NE NW SW, Sec. 51, Blk. 25 — Show oil, 2,679-90 ft.; T.D., 2,780 ft.; 400 ft. oil in hole; running liner; some wtr. showing.

Rensaul Pet. Co.'s No. 2 M. Huselby, NE cor. SW, Sec. 55, Blk. 25, H.&G.N. Sur. — T.L., 1,675 ft.; set 8¼-in., 1,851 ft.; 2,000,000 ft. gas, 2,185-2,205 ft.; T.D., 2,823 ft; swbd. and flowed 120 bbls. in 2 days.

Scott & Travis' No. 1 A. Chapman, 990 ft. N and W of SE cor. N half SW, Sec. 70, Blk. 25, H.&G.N. Sur.. — Rig.

St. Clair Oil Co.'s No. 1 C. H. Rowe — Spudded and S.D.

St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor. Sec. 35, W. R. Lee Sur. — Spudded and S.D.

Shamrock Oil Co.'s No. 1 Chapman, NE E half SW, Sec. 50, Blk. 25 — 10,000,000 ft. gas, 2,695-2,715 ft; show oil, 2,763-73 ft; 1 bailer wtr. and little oil per hr; S.D., 2,905 ft.

Skelly Oil Co.'s No. 1 Bradford, NE cor. Sec. 118, Blk. B-2, H.&G.N. Sur. — 12,000,000 ft. gas, 2,765 ft; drlg., 2,805 ft.

Spartan Oil Co.'s No. 1 J. Hopkins — Drlg. salt, 1,325 ft.

Sullivan et al's No. 1 A. Chapman-A — 23,000,000 ft. gas, 2,280-2,300 ft; S.O., 2,345 ft; fish., 3,130 ft.

Sullivan et al's No. 1 S. A. Cobb, NE cor. NW, Sec. 64, Blk. 25, H.&G.N. Sur. — Drlg., 700 ft.

Sullivan Oil Co. et al's No. 1 M. Huselby, NW cor. E half NW, Sec. 55, Blk. 25, H.&G.N. Sur. — Location.

Sun Oil Co.'s No. 1 Jackson — Top lime, 2,035 ft; drlg., 3,000 ft.

Staggers Oil Co.'s (was Ruby Oil Co.'s) No. 1 B. F. Tally.. — T.D., 635 ft; S.D.

The Texas Co.'s No. 3 J. B. Bowers — Fish., 2,765 ft; 44,000,000 ft. gas.

The Texas Co.'s No. 4 J. B. Bowers, SE cor. SE, Sec. 93, Blk. B-2 — Cmtd. 8¼-in. csg., 2,103 ft; cmtd. 6-in., 2,965 ft.

The Texas Co.'s No. 2 H. M. Davis, SW cor. NW, Sec. 86, Blk. 3 — Set. 8¼-in., 2,150 ft; cmt. 6-in. 3,050 ft; 1,500 ft. oil; T.D., 3,-145 ft.

The Texas Co.'s No. 1 M. B. Davis, SE cor. NE, Sec. 3, Blk. 1, A.C.H.&B. Sur. — Drlg., 1,920 ft.

The Texas Co.'s No. 1 S. McLarty-A, SW cor. E ½ NW, Sec. 1, Blk. 1, A.C.H.&B. Sur. — Making 40,000,000 ft. gas; flowing 305 bbls. daily, 2,389-2,400 ft; T.D., 2,410 ft.

The Texas Co.'s No. 1 S. McLarty — T.L., 1,712 ft; drlg., 2,695 ft; swb. 50 bbls. daily, ⅛ bailer wtr. per hr.

The Texas Co.'s No. 1 C. Thut, C N half of E 320 A, Sec. 1, H.&G.N. Sur. — 10,000,000 ft. gas, 2,436-40 ft; making 1 bailer 42 grav. oil per hr., 2,806-15 ft; drlg., 2,355 ft.

The Texas Co.'s No. 2 C. Thut, SE NW SE, Sec. 1, H.&G.N. Sur. — Location.

The Texas Co.'s No. 2-A Chapman, NE cor. NW NW, Sec. 51, Blk. 25, H.&G.N. Sur. — 2,000 ft. oil in hole, 2,722-50 ft; well swbd. 139 bbls., 15 hrs. and 41 bbls. next 24 hrs; T.D., 2,-754 ft.

The Texas Co.'s No. 2 Chapman-B, Sec. 31, Blk. 25, H.&G.N. Sur. — Rig.

The Texas Co.'s No. 1 J. E. Williams, NW cor. NE NW, Sec. 7, Blk. 1, A.C.H.&B. Sur. — Spud.

The Texas Co.'s No. 2 Williams, C NW, Sec. 6, Blk. 1, A.C.H.&B. Sur. — Location.

Tobias Oil Corp.'s No. 1 W. H. Taylor, C NE, Sec. 10, Blk. B-2 (formerly Smallwood et al's) — T.S., 765 ft; drlg., 1,410 ft.

Viola Oil Corp.'s No. 1 G. H. Saunders — U.R. 8-in., 2,305 ft.

HALE COUNTY

Bailey & Young's No. 1 Thomas, Sec. 1, Blk. J.K.L. — S.D., 175 ft.

Donnell Pet. Co.'s No. 2 Mullican, NW cor. Sec. 66, Blk. A-3, L&S.B Sur. — Top pay in sandy shale 495 ft; ⅛ bailer oil and 3 bailers wtr. per day; S.D., 620 ft.

Donnell Pet. Co.'s No. 1 Mullican, C Sec. 21, Blk. B, R. M. Thompson Sur. — 200 ft. fluid in hole from 407-14 ft; S.D.

Explin. Co.'s No. 1 Crawford, C NE, Sec. 17, Blk. C-3, T.T.R.R. Sur. — Spudded and S.D.

Explin. Co.'s No. 1 Goodman — S.D., 350 ft.

A. S. Mimm's No. 1 W. A. Ritcher, 700 ft. from east line and 1,200 feet from south line, Sec. 17, Blk. X, John Glynn Sur. — S.D., 1,140 ft.

Tolbert & Simm's (was Gouldy & Stone's) No. 1 Kitteral, SE cor. NW, Sec. 65, Blk. A-3, G.C.&S.F. Sur. — S.D., 485 ft.

HALL COUNTY

Briscoe Oil Assn's (was Seifert et al's) No. 1 Owens, C NE, Sec. 179, Blk. S-5, Dennison & Pacific Sur. — Spudded and S.D.

HANSFORD COUNTY

Caldwell et al's No. 1 J. Adriance est. — Drlg., 1,439 ft.

Oklavania et al's No. 1 Coots, Sec. 13, Blk. 45, H.&T.C. Sur. — Cmt. 10-in. csg., 990 ft; S.D., 830 ft.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood — S.D., 1,455 ft. to install rotary.

HARTLEY COUNTY

Deep Rock Oil Co.'s No. 1 Lymann & Balfour, Sec. 9 — Preparing to abd., 4,038 ft.

HEMPHILL COUNTY

Hoover et al's No. 1 Schaller est., Sec. 4 — Spudded and S.D.

Hoover et al's No. 1 fee, J. S. Hood Sur. — 300 ft. wtr. in hole; S.D., 5,000 ft. rainbow show.

HUTCHINSON COUNTY

Alamoso Oil Co.'s No. 2 J. M. Sanford, Sec. 83, Blk. 46, H.&T.C. Sur. — Drlg., 730 ft.

R. G. Barnum et al's No. 1 Garland Sanford, Sec. 78, Blk. 46 — Rig.

Barnum & Delmar's No. 1 Johnson Bros., NW cor. E half, NW, Sec. 37, Blk. Y, A.&B. Sur. — Rig.

Beam et al's No. 1 Cockrell, Sec. 3, Blk. 23 — S.D., 405 ft. for orders.

Big Coach Oil Co.'s No. 1 Dunnaway, Sec. 5, Blk. Y — S.D., 750 ft.

Conklin et al's No. 1 Johnson, Sec. 1, Blk. X03, H.&O. B. Sur. — S.D., 600 ft.

Dixon Creek Oil Co.'s No. 1 Burnett est., NW cor. of E 240 A of N 320 A, Sec. 120, Blk. 5, L.&G.N. Sur. — 6,000,000 ft. gas, 2,775 ft; small show oil, 3,060-65 ft; drlg. 1,205 ft.

Harris et al's No. 1 J. Q. Bost, Sec. 10, Blk. Y-2, T.T. R.R. Sur. — S.D., 1,915 ft. (corrected).

Holmes & Quinn's No. 1 J. K. Quinn, SW cor. Sec. 9, Blk. 2, B.S.&F. Sur. — Drlg., 2,510 ft.

McMan O. & G. Co.'s No. 1 Albert Yake, SW cor. SE, Sec. 2, Blk. J, H.&G.N. Sur. — Set 8¼-in. pipe, 2,107 ft; show gas 2,220 ft; 10,000,000 ft. gas spraying 10 bbls. daily, 2,386-ft; T.D., 3,012 ft; swb. 5 bbls. and 200 to 500 bbls. salt water to abandon.

Phillips Pet. Co.'s No. 2 Garland, Sec. 77, Blk. 46 — Spudding.

Phillips Pet. Co.'s No. 12 Elva-Whittenburg, E. Tomlinson Sur. — T.A., 4,445 ft.

Phillips Pet. Co.'s No. 2 Chap, NE cor. E 80 acres of the S 160 acres of Sec. 78, Blk. 46 — Drlg., 270 ft.

Phillips Pet. Co.'s No. 2 Land, NW cor. of E 40 acres, N 80 acres of S 320 acres, Sec. 83, Blk. 46 — Rig.

Phillips Pet. Co.'s No. 1 Perkins-Hamilton, SW cor. of N 240 acres of S half, Sec. 22, Blk. 47, H.&T.C. Sur. — Location.

Skelly Oil Co.'s No. 2 Armstrong & Byrd — Set 12-in. csg., 1,425 ft; cmtd. 10-in. csg., 1,553 ft.

Skyrocket Oil Co.'s No. 1 Mrs. R. A. Jameson — 800 ft. oil in hole from 3,146 ft; drilled to 3,130 ft; shot with 60 qts., 3,125-60 ft; bridged; no increase in oil after deepening; pumped 25 bbls. in 5 hrs; to put on gas lift for test.

Timms & Dietsch's No. 1 C. R. Garner, NE cor. W 80 of SE, Sec. 124, Blk. 4, L&G.N. Sur. — Cellar.

Wendell et al's No. 1 Johnson Bros., Sec. 1, Blk. X03 — S.D., 1,164 ft.

KING COUNTY

Humble O. & R. Co.'s No. 1 Pitchfork, Sec. 171, Blk. A-96, John H. Gibson Sur. — Hole full wtr., 3,375 ft; drlg., 1,763 ft.

A. L. Pattison's No. 1 Patton — Slight show gas, 2,115-30 ft; fish. 3,410 ft.

LAMB COUNTY

Dan Freel et al's No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. — Spudded and S.D.

Spade Oil Co.'s No. 1 Andrews, 1,085 ft. from N line and 200 ft. from E line, Labor 23, League 643, (5 miles NE of Littlefield) — Spudded and S.D.

Tolbert & Simms' No. 1 Ellwood, NE NW SW, Sec. 14, Blk. B, R. M. Thompson Sur. — 712 ft; small show oil and hole full wtr.; dry, 1,504 ft; temp. abd.

LIPSCOMB COUNTY

McCorkle's No. 1 A. Barton, NE cor. SW SE, Sec. 504, Blk. 43, H.&T.C. Sur. — Wtr. in lime, 4,126-40 ft; 6-in. set 4,155 ft; 5 3/16-in. csg. set, 4,420 ft; S.D., 4,705 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles ranch — Small show oil, 1,133-49 ft. in sand; S. D., 2,730 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 1 Thompson-Amarillo, C Sec. 32, Blk. 26, E.L.&R.R. Sur. — Drlg., 1,255 ft.

Amarillo Oil Co.'s No. 1 J. T. Sneed, Jr., C W 640 acres, Horace Hall Sur. — Location.

Amarillo Oil Co.'s No. 1 D. P. Seay, C. Sec. 85, Blk. 2, G.&M. Sur. — Bldg. rig.

Amarillo Oil Co.'s No. 1 L. H. Crawford, C SE Sec. 26, Blk. P. M., E.L.R.R. Sur. — Building rig.

Prairie and Shamrock's No. 2 Gober, Sec. 16, Blk. M-21. — T.D., 2,520 ft.; cmntd. 10-in. csg. 2,636 ft.; drlg. by tools 2,644 ft.

MOTLEY COUNTY

Explin Co.'s No. 1 Burleson — Spudded and S.D.

Explin. Co.'s No. 1 Tillson — S.D., 750 ft. for repairs.

Explin Co.'s No. 1 Matador Land & Cattle Co., C SW, Sec. 27, John Gibson Sur. — S.D., 1,002 ft.

Matador Oil Corp.'s (formerly Wheeler et al's) No. 1 C. D. Bird, SW cor. NW, Sec. 4, Blk. S, Stephens Sur. — Drlg., 500 ft.

OLDHAM COUNTY

Prairie O. & G. Co.'s No. 1 Ladegrin, SE cor. NE SW, Sec. 46, League 310, Capital land — 1,900 ft. wtr., 4,085-93 ft.; 1 bailer wtr. per hr. and light scum oil; 4,527 ft. (steel line meas.); cmtd. 6-in., 4,442 ft.; 2,000 ft. SW wtr. 4,850-56 ft.; T.D., 5,645 ft.; P.B. to 4,571 ft; shot with 70 qts. 4,515-37 ft., and 20 qts. 4,503 ft; C.O; bailing 1 bailer wtr. per hr.

OCHILTREE COUNTY

W. G. Burton's No. 1 Strickler — S.D., 4,000 ft.

POTTER COUNTY

Amarillo Oil Co.'s No. 1 Masterson-K, C SW, Sec. 85, Blk. O-18, D.&P.R.R. Sur. — Recmntg. 12½-in. csg., 1,000 ft; show gas, 1,650 ft; drlg. 2,0 ft; making 10,000,000 ft gas

Amarillo Oil Co.'s No. 1 Fuqua, C NW Sec. 18, Blk. 6, B.S.&F. Sur. — Drlg., 1,700 ft.

Amarillo Oil Co.'s No. 1 Lee Bivins-B, C NW, Sec. 27, Blk. O-18, D.&P.R.R. Sur. — Cellar.

El Rio Oil Co.'s No. 1 River Bed, 530 ft. N and 670 ft. W of NE cor. Sec. 106, Blk. 46, H.&T.C. Sur. and in Canadian River Bed — Drlg., 1,400 ft.

Frank Allen et al's No. 1 W. H. Bush — Fish., 410 ft.; corrected; T.

RANDALL COUNTY

Westbrook Oil Co.'s No. 1 J. Beckman, SW cor. SE NE, Sec. 46, Blk. B-5 — S.D. for orders 3,713 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Mrs. H. Ledrick & Sons, Sec. 7, Blk. 5-A — Show gas, 4,990 ft.; show oil, 992 ft.; csg. set, 4,992 ft.; T. 5,153 ft.; set 3-in., 5,155 ft.; 5,240 ft.

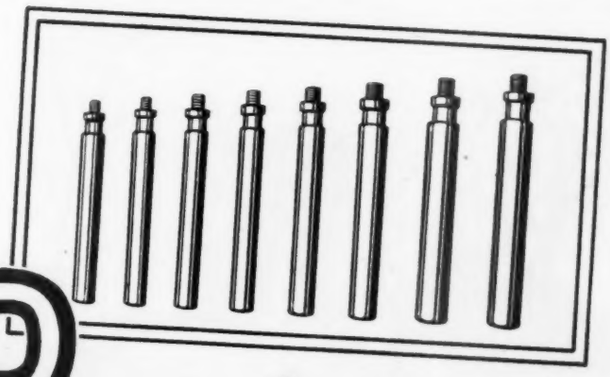
SHERMAN COUNTY

Gibson Oil Co.'s No. 1 Bivins, Sec. 35, Blk. 3-B — 100,000 ft. gas, 3,016-26 ft.; T. 3,353 ft.; 2,000 ft. S.W., 3,0 ft.; drlg., 3,435 ft.

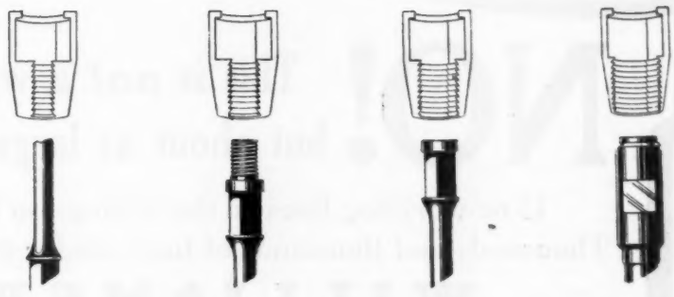
SWISHER COUNTY

Adams & Pritchard's No. 1 Crawford, Sec. 39, Blk. W-1, T.T.R.R. Sur. — S.D., 440 ft.

It's like running 8 sockets at the same time



Since the GUIBERSON Multiple Sucker Rod Socket has *four* sets of slips, each capable of catching *two* sizes of rods, it has the effect of 8 sockets in one. No matter what portion of the rod is presented, it automatically selects its complementary socket and is caught the first trip.



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Use Madesco Tackle Blocks, They Stand the Gaff

WHEELER COUNTY

Byrens et al's No. 1 Johnson, SW cor. NE, Sec. 88, Blk. A-5, H.&G.N. Sur. ..... U.R. 10-in. csg., 825 ft. and S.D.
Clark et al's No. 1 J. D. Purcell, C NW SW, Sec. 51, Blk. E.&G.N. Sur. ..... Drlg., 770 ft.
Hatcher et al's No. 2 fee, C SW SW, Sec. 80, Blk. 23, H.&G.N. Sur. ..... Drlg., 215 ft. with spudder.
Lone Star Gas Co.'s No. 1 C. George, C SE SE, Sec. 68, Blk. 17, H.&G.N. Sur. ..... Drlg., 740 ft.
Rook et al's (was Foster et al's) No. 1 S. H. McDonald, SE cor. NW SW, J. N. Lindsay Sur. ..... T.L., 3,040 ft; S.D., 3,345 ft. for fuel.
L. W. Rook's No. 1 M. Nelson, C SW NE, Sec. 5, Blk. 24, H.&G.N. Sur. ..... Location.
Sabine Oil Co.'s No. 1 E. L. Woodley, C SE SE, Sec. 21, Blk. 24, H.&G.N. ..... Drlg., 1,300 ft.
Smith Brady et al's No. 1 P. J. Sorenson, Sec. 53, Blk. A-4 ..... S.D., 2,120 ft. for orders.
H. Vaughan et al's No. 1 C. C. George, C SE NW, Sec. 96, Blk. 17, H.&G.N. Sur. ..... Drlg., 2,250 ft.
Vaughn et al's No. 1 B. Woodley, C SW NW, Sec. 21, Blk. 24, H.&G.N. Sur. ..... Location.
Vaughn et al's No. 1 A. Wood, C NW SW, Sec. 21, Blk. 24, H.&G.N. Sur. ..... Location.
Vaughn et al's No. 1-B Ackley, C NE NW, Sec. 4, Blk. 37, H.&G.N. Sur. ..... Drlg., 1,640 ft.
Kaufold et al's No. 1 E. R. Wallace ..... S.D., 300 ft.
Pete Woodley's No. 1 J. Boyle ..... Run 8¼-in., 1,500 ft. and S.D.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 35)

Young & Donelly's No. 1 J. M. Shannon, C Sec. 11, Blk. 9, D.&S.E. Sur. ..... 7,000,000 ft. gas at 1,662 ft.; shut down 1,775 ft.
Young & Donnelly's No. 2 J. M. Shannon, Sec. 18, Blk. 10, G.C.&S.F.R.R. Sur. ..... Rig.

CULBERSON COUNTY

Deep Rock Oil Co.'s No. 2 Kioh-Rumsey, Sec. 21, Blk. 29, T.&P. Sur., T-1 (NE of No. 1) ..... Shut down 1,265 ft.
Hickey & Stiver's No. 1 C. O. Finley ..... Shut down 860 ft.
Scott & Dittman's No. 1 Miller, SW cor. NW NE Sec. 1, School Blk. 97 ..... Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; shut down for casing 1,767 ft.

ECTOR COUNTY

Pennsylvania Drlg. Co.'s No. 1 W. E. Connell, C NE Sec. 7, Blk. B-16 ..... Location.
Shoup et al's No. 2 C. P. Davis, C Sec. 10, Blk. 42 ..... Material on ground.

EL PASO COUNTY

Ellsworth & Haunt's No. 1 McKinney & Jones ..... Rig.

FISHER COUNTY

Cranfill & Reynold's No. 1 J. A. Young, Sec. 208, B.B. B.&C. Sur. ..... Top pay 3,106 ft.; total depth 3,140 ft. (s.l.m.); to plug back to 3,125 ft.; hole full salt water 3,135-40 ft.
R. W. Raney's No. 2 Maberry, Sec. 56, Blk. 1, T.&P. Sur. ..... Drlg. 3,058 ft.
Sinclair Oil & Gas Co.'s No. 1 F. Steele, NW NE NE Sec. 72, Blk. 1, H.&T.C.R.R. Sur. ..... Drlg. 600 ft.

FOARD COUNTY

Clark et al's No. 1 Atkins ..... Lime 1,580-1,930 ft.; show gas 1,885 ft.; shut down 3,502 ft.; to plug and abandon.
Marland Oil Co.'s No. 1 J. H. Minnick, C NE Sec. 74, Blk. B, H.&T.C. Sur. ..... Drlg red beds 475 ft.

GARZA COUNTY

Emerald Oil Co.'s No. 3 Boren, C NW NE Sec. 137, Blk. 5 ..... Top salt 660 ft.; drlg. 2,850 ft.; show oil 2,522-65 ft. (cor.).
Gulf Prod. Co.'s No. 1 E. P. Swenson-A, Sec. 67, Blk. 2, H.&G.N. Sur. ..... Top salt 495 ft.; top lime 2,075 ft.; total depth 5,095 ft.; 4,000 ft. water; to abandon.
Marland Oil Co.'s No. 1 B. F. Pippin, C NW Sec. 1,210, W. C. Young Sur. (3,750-ft. test) ..... Underreaming 15-in. casing 500 ft.; drlg. 3,400 ft.

GLASSCOCK COUNTY

Texon & Marland's No. 1 Settles ..... Set 10-in. 1,420 ft.; top lime 2,015 ft.; hole full sulphur water 2,710-50 ft.; 5-in. casing 3,210 ft.; drlg. 3,285 ft.
Josey & Finchbaugh's No. 1 S. R. Cox, 1,320 ft. W. of NE cor. and located on the N line of Sec. 29, Blk. 33, Twp. 4s, T.R.R.R. Sur. ..... Location.
Meriwether Oil Co.'s No. 1 L. S. McDowell, CNL Sec. 34, Blk. 34, T-2-S, T.P.R.R. Sur. ..... Drlg. 650 ft.
R. R. Penn's No. 1 Hughes & Johnson ..... Location.

HOWARD COUNTY

F. H. E. Oil Co.'s No. 1 Dora Roberts, SW NE Sec. 136, Blk. 29, W.&N.W.R.R. Sur. ..... Shut down 1,940 ft.
F. H. E. Oil Co.'s No. 2 Dora Doberts-D, SE cor. S half NW Sec. 136, Blk. 29, W.&N.W. Sur. ..... Drlg. 1,202 ft.
F. H. E. Oil Co.'s No. 3 Dora Roberts-A, 1,170 ft. S and 1,210 ft. W NE cor. Sec. 156, Blk. 29, W.&N.W. ..... Cem. 6-in. casing 1,585 ft.
F. H. E. Oil Co.'s No. 4 Dora Roberts-A, 1,170 ft. S and 1,710 ft. S and 1,710 ft. W NE cor. Sec. 156, Blk. 29, W.&N.W. ..... Spudding and shut down.
Green O. & R. Co.'s No. 1 H. R. Clay, SE cor. Sec. 127, Blk. 29, W.&N.W. Sur. ..... Drlg. 915 ft.
Henshaw et al's No. 1 W. R. Settles, SW SE SW Sec. 135, Blk. 29 ..... Drlg. 2,410 ft.
Lockhart et al's No. 2 Dora Roberts, Sec. 167, Blk. 29, W.&N.W. ..... Material on ground.
Magnolia Pet. Co.'s No. 7 Dora Roberts, SW NE SW Sec. 136, Blk. 29, W.&N.W. ..... Drlg. 349 ft.
Marland Oil Co.'s No. 1 Donnely Clay, Sec. 127, Blk. 29 .... Location.
Marland Oil Co.'s No. 1 Richardson, C NW Sec. 12, Blk. 32, T.&P. Sur., T-1-S ..... Top salt 270 ft.; hole full salt water 2,235-2,300 ft.; hole full sulphur water 2,790-2,800 ft. and 3,010 ft.; pulling pipe to abandon 3,615 ft.
Maya, Nixon & Flowers' No. 1 W. J. Flowers ..... Little salt at 976-97 ft.; top salt 1,114 ft.; shut down 2,100 ft.
Merrick & Lamb's No. 4 H. R. Clay, CSL SE NE Sec. 126, Blk. 29, W.&N.W. ..... Location.
Miley and Marland Oil Co.'s No. 1 C. D. Read, C NW Sec. 12, Blk. 31, T.&P. Sur., T-1-N ..... Spudded and shut down 5 ft.
Owen & Sloan's No. 4 Dora Roberts, Sec. 136, Blk. 29.... Rotary rig completed.
Sprague Oil Co.'s No. 1 Dora Roberts ..... Spudded and shut down.
Sweeney et al's No. 3 Chalk, Sec. 124, Blk. 29 ..... Location.
Sweeney et al's No. 4 Chalk, Sec. 124, Blk. 29 ..... Location.
Tate-Weekley & Tubbs' No. 2 Dora Roberts, NE cor. Sec. 156, Blk. 29, W.&N.W.R.R. Sur. ..... Shut down 1,890 ft.; to shoot.
Tate-Weekley & Tubbs' No. 4 Dora Roberts, Sec. 156, Blk. 29, W.&N.W.R.R. Sur. ..... Cem. 6-in. casing 1,599 ft.
Texon O. & L. Co. and Marland Oil Co.'s No. 1 Mrs. Connaly, NE cor. Sec. 15, Blk. 33, T.&P. Sur., T-1-N.. Top salt 1,425 ft.; hole full salt water 1,760-1,800 ft.; show oil 3,065 ft.; hole full sulphur water 3,500-55 ft.; hole full water 3,925-50 ft.; show oil 4,125-36 ft.; preparing to plug 4,400 ft.
Texon O. & L. Co. and Marland Oil Co.'s No. 2 W. R. Settles ..... Shut down for storage; sand at 1,280-84 ft.; total depth 1,298 ft.
Texon & Marland's No. 2 W. R. Settles-A ..... Drlg. 200 ft.
Weekly Oil Corp. et al's No. 1 Dora Roberts, Sec. 156, Blk. 29 ..... Top lime 2,090 ft.; drlg. 2,760 ft.

HUDSPETH COUNTY

American Land Co.'s No. 1 Lockhart and Roseborough, C SE Sec. 5, School Blk. 21 ..... Shut down 180 ft. (cor. depth); to start up soon.
Western States Oil Co.'s No. 1 Moore, C SE Sec. 16, Blk. 71, T.&P. Sur., T-6 ..... Shut down 1,707 ft. in black lime.
Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW Sec. 12, Blk. 18 ..... Drlg. 900 ft.

IRION COUNTY

P. F. Hill's No. 1 Horney, 150 ft. S and 450 ft. W of NE cor. SW of Sec. 2, Blk. 2, H.&T.C. Sur. ..... Hole full water 720-40 ft.; top pay 1,270 ft.; 1,170 ft.; fluid in hole; ran bailer and bailer 9 bbls. live pumped 12 bbls. oil and 48 bbls. water first 24 hrs.
F. E. Webb et al's No. 1 J. M. Nutt ..... Fishing 375 ft.

JEFF DAVIS COUNTY

J. K. Hughes Dev. Co.'s No. 2 Means ..... Cleaning out 2,563 ft.
Humble O. & R. Co.'s No. 2 Crecencio Flores, 1,130 ft. N and 850 ft. E of SW cor. Sec. 34, Blk. 58, T.&P. Sur., Twp. 8 ..... Drlg. 4,210 ft.

JONES COUNTY

Garland & Diamond's No. 1 E. D. Glynn, SE cor. Sec. 18, Deaf & Dumb Asylum Lands ..... Hole full water 2,770-80 ft.; cleaning out 2,790 ft.
Midwest Exploration Co.'s No. 1 Sarah L. Phillips, SW cor. Sec. 16, Blk. 19, T.P.R.R. Sur. ..... Drlg. 815 ft.
Rhodes & Highers' No. 1 E. Howell, Sec. 20, Blk. 19, T.&P. Sur. ..... Drlg. 2,230 ft.
J. N. Sloan and others' No. 1 W. C. Bennett, NW cor. SW SE Sec. 42, Orphan Asylum Land ..... Spudded and shut down.
W. G. Stough and others' No. 1 J. P. Willis, J. C. Patterson Sur. No. 2 ..... Shut down 1,740 ft.

KENT COUNTY

Marland and Texon's No. 1 Bilby ..... Top salt 610 ft.; shut down 2,805 ft., engine repairs.

KNOX COUNTY

Deep Rock Oil Co.'s No. 1 Moore ..... Fishing for bit 2,285 ft.
Deep Rock Oil Co.'s No. 1 Big Four, 1,270 ft. S and 2,500 ft. W of NE cor. Sec. 31, Blk. 4 ..... Drlg. 2,840 ft.

LOVING COUNTY

Delaware Oil Co.'s No. 1 Lockhart & Ramsey ..... Top salt 780 ft.; drlg. 2,400 ft.
Lockhart Bros.' No. 2 fee, 330 ft., 3,630 ft. W SE cor. Sec. 85, Blk. 33, H.&T.C. Sur. ..... Location.
Lockhart & Co.'s No. 1-A Lepp, Sec. 85, Blk. 33 ..... Rigging up standard tools.
Owens & Sloan's No. 1 W. D. Johnson, C SE Sec. 20, Blk. 53, T-2, T.&P. Sur., elev. 2,924 ..... Top salt 955 ft.; drlg. 4,590 ft.

LYNN COUNTY

Elpo Oil Co.'s No. 1 Nevols, NW cor. Sec. 6, Blk. C-42, School Lands ..... Drlg. 900 ft.
Hart Oil Corp.'s No. 1 C. O. Edwards A-1 ..... Old hole aband.; bldg. rig over new hole.

MARTIN COUNTY

Phillips Pet. Co.'s No. 1 C. C. Slaughter, SE cor. Sec. 77, Bauer & Cockrell Sur. ..... Location.

MENARD COUNTY

Carpenter & Robbins' No. 1 Kothman, NW cor. SW SW Sec. 22 ..... 165 ft. 34-6 grav. oil at 414-15 ft. fishing 715 ft.
J. C. Barnett and T. H. Drake's No. 1 Callan City Co. Ranch, Sec. 22 ..... Shut down 520 ft.
May & Clark's No. 1 Collen, Sec. 22, B.S.&F. ..... Shut down 505 ft.
Moody Oil Corp.'s No. 1 G. S. Allison, SE cor. Johann Kuhler Sur. No. 1,473 ..... Drlg. 260 ft. in lime.
Renfro et al's No. 1 J. Davis ..... Shut down 260 ft.

MIDLAND COUNTY

Gholson et al's (was Orbit Oil Co.'s) No. 1 Moreland, C SE Sec. 17, Blk. 39, T.&P. Sur., T-1-S ..... Top salt 1,910 ft.; shut down 3,510 ft.
Shoup et al's No. 1 Roy Parks ..... Underreaming 12-in. casing 902 ft.

MITCHELL COUNTY

Boehm Drilling Co.'s No. 1 Harry Hyman, C NW SE Sec. 90, Blk. 29, W.&N.W. Sur. ..... Shut down 505 ft.
California Oil Co.'s No. 8 C. M. Adams, Lease No. 2, CSL NE NW Sec. 11, Blk. 28, Twp. 1n, T.&P.R.R. Sur. ..... Drlg. 1,390 ft.
Magnolia Oil Co.'s No. 5 Foster, Sec. 17, Blk. 29, T.&P. ... Top lime 1,738 ft.; drlg. 1,805 ft.
Paul Teas et al's No. 1 A. C. Mills, NW cor. C. A. O'Keefe Sub. 11, J. P. Smith Sur. ..... Total depth 1,766 ft. (s.l.), plugged back to 1,650 ft.; shut down 1,660 ft. to test on pump.
Robert Thraves' No. 1 C. Way, Sec. 91, Blk. 27, T.&P. Sur., T-1-N ..... Total depth 2,503 ft.; shut down

PECOS COUNTY

George Anderson's No. 1 University, C Sec. 11, Blk. 17.... Location.
Alexander & Lyle's No. 1 Myrtle Sellman, C SW SE Sec. 20, Blk. Z, T.C.Ry. Sur. ..... Location.
Benedum & Trees' No. 1 B. T. Corder ..... Drlg. to 494 ft. and shut down.
Bob Elmore's No. 2 Holmes, SE cor. Sec. 45, Blk. 1, I.&G.N. Sur. ..... Top salt 435 ft.; shut down 990 ft.
Buell & Hagan's No. 1 Pryor & Wilson, Sec. 15, Blk. 5 .. Drlg. 1,360 ft.
Diamond Pet. Co.'s No. 1 Blackstone & Slaughter ..... Moving in machine.
M. C. Dibble & Hale's No. 1 Bonebrake, Sec. 115, Blk. 8, H.&G.W. Sur., elev. 2,555 ft. ..... Shut down 890 ft.
Ditto Oil Co.'s No. 1 J. M. Montgomery, Sec. 104, Blk. 331, A-6,387 ..... Spudded and shut down.
Furman Oil Co.'s No. 1 T. W. McNear, Jr., Sec. 46, Blk. 9 ..... Moving in material.
Everett et al's No. 1 J. Fields ..... Spudded and shut down.
Gibson Oil Corp.'s No. 1 R. R. Russell, Sec. 69, Blk. 3, C.C.S.D.&R.G.N.G. Sur. ..... Drlg. 2,255 ft.
Kershaw & Livingston's No. 1 Cannon, Sec. 54, Blk. A-2.. Drlg. 2,385 ft.
Kirby Pet. Co.'s No. 1 University, NE cor. Sec. 36, Blk. 24, University Land ..... Fishing 250 ft.
Mid-Kansas O. & G. Co.'s No. 1 Pryor & Wilson, NW cor. Sec. 3, Blk. 5, T.C.R.R. Sur. ..... Run 12½-in. casing 1,100 ft.
Miller & McNees' No. 1 W. C. Tyrrell ..... Rig on ground.
Phillips Pet. Co.'s No. 1 Nutt, SE cor. Sec. 8, Blk. 126 ... Rig.
B. J. Spikes' No. 1 George Brown ..... Shut down 700 ft.
Rowan & Tong's No. 1 Scharff & Blackman, Sec. 4, Blk. 9 ..... Run 10-in. casing 600 ft.
Roxana Pet. Corp. and Kirby Pet. Co.'s No. 1 University, Sec. 23, Blk. 26 ..... Rig on ground.
Stidham & Thrasher's No. 1 Belgrade Ranch Co., Sur. 3, Mrs. S. Tompkins A-4,695 ..... Flowing sulphur water; shut down 2,020 ft.
Transcontinental Oil Co.'s No. 1 University, NE NW SW Sec. 18, Blk. 18 ..... Drlg. 1,115 ft.; slight show gas 1,035 ft.; 25 bbls. sulphur water per hr. at 1,105-15 ft.
Vacuum Oil Co.'s No. 1 Elsinore Cattle Co., Sec. 60, Blk. D, G.C.&S.F. Sur. ..... Drlg. 1,770 ft.
World Oil Co.'s No. 1 Kioh, Sec. 47, Blk. 45, Twp. 8, T.P.R.R. Sur., elev. 2,810 ft. ..... Cleaning out 950 ft.
World Oil Co.'s No. 1 Serf, C NE Sec. 10, Blk. 130, T.&St.L. Sur., elev. 3,435 ft. ..... Shut down 1,540 ft.

Yates Pool, Pecos County

Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 6 River Bed ..... Rig.
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 8 River Bed ..... Hole full of fluid, 35 per cent water; shut down 1,095 ft.
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 9 River Bed ..... Location.
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 13 River Bed ..... Location.
Pandem Oil and Gibson Oil Co.'s No. 14 River Bed ..... Location.
Pandem Oil and Gibson Oil Co.'s No. 15 River Bed ..... Location.
California Co.'s No. 2 Yates, Sec. 34, Blk. 194 ..... Rig.
California Oil Co.'s No. 14 I. G. Yates, Lease 1, Sec. 34, Blk. 194 ..... Drlg. 1,420 ft.; top pay 1,275 ft.; flowing 175 bbls. per hr.
California Oil Co.'s No. 15 I. G. Yates, Lease 1, Sec. 34, Blk. 194 ..... Shut down 1,109 ft.; 50,000,000 ft. gas from 1,085-1,109 ft.; top pay 1,109 ft.; flowing 400 bbls. per hr.
California Oil Co.'s No. 16 I. G. Yates, Lease 1, Sec. 34, Blk. 194 ..... Drlg. 1,150 ft.
California Co.'s No. 2 M. A. Smith, Lease 1, Sec. 37, Blk. 194, G.C.&S.F. ..... Underreaming 10-in. casing 767 ft.
California Co.'s No. 1 Mrs. M. A. Smith, Lease 2, Sec. 26,

Blk. 194, G.C.&S.F. Sur. ..... Drlg. 500 ft.
California Co.'s No. 12 Smith, Lease 3 ..... Shut down 1,250 ft.
Douglas Oil Co.'s No. 2 J. T. Sellman ..... Hole full salt water 795-860 ft.; 25 ft. sulphur water 1,614-15 ft.

Gulf Prod. Co.'s No. 8 I. G. Yates, Runnels Co. School Land No. A-2,169 ..... Pumped 285 bbls. 11 hrs. from sand 405-49 ft. showing 17 per cent b.s. and water which treats out 18-gravity oil; drlg. plug at 1,178 ft.

Humble O. & R. Co.'s No. 7 M. A. Smith, SW cor. NW Sec. 36, Blk. 194 ..... Fishing 1,225 ft. (cor. depth).
Kirby Petroleum Co.'s No. 1 J. H. Tippett, CWL E half W half Sec. 40, Blk. 194 ..... Cased off oil 520 ft.; shut down 1,238 ft. for standard tools.

Matador Oil Co.'s No. 1 Smith, NW cor. SE NE Sec. 24, Blk. 194, G.C.&S.F. Sur. ..... Cellar.
McDonald et al's No. 1 A. A. Parsell, C NW SE Sec. 28, Blk. A, G.C.&S.F.R.R. Sur. ..... Shut down 100 ft.
McMan and Marland's No. 16 Yates ..... Rig.
McMann Oil Co.'s No. 1 Mrs. M. A. Smith, SW cor. Sec. 104, Blk. 194 ..... Location.
Marland Oil Co.'s No. 11 Yates-A ..... Location.
Marland Oil Co.'s No. 12 Yates-A ..... Location.
Marland Oil Co.'s No. 13 Yates-A ..... Location.
Michaelson & Tabot's No. 1 River Bed ..... Top salt, 430 ft; S.D., 935 ft.
Mid-Kansas and Transcontinental's No. 14 Yates-A, Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Waiting on machine.
Mid-Kansas and Transcontinental's No. 17 I. G. Yates-A, Sec. 31, Blk. 194 ..... Location.
Mid-Kansas and Transcontinental's No. 18 Yates-A, Lease A-8,195 ..... Location.
Mid-Kansas and Transcontinental's No. 18 Yates-B ..... Show oil 1,095 ft.; flowed sulphur water 1,108 ft.; plugged back to 1,087 ft.; 400 ft. water; 300 ft. oil in hole.
Mid-Kansas and Transcontinental's No. 22 Yates-B ..... Drlg. by tools 1,264 ft.; top pay 1,215 ft.; flowed 3,076 bbls. in 7 hrs.
Mid-Kansas and Transcontinental's No. 6 Yates-C ..... Rigging up.
Mid-Kansas and Transcontinental's No. 10 Yates-C ..... Location.
Mid-Kansas and Transcontinental's No. 1 I. G. Yates-G, Sec. 34½, Blk. 194 ..... Spudding.
Mid-Kansas and Transcontinental's No. 9 Smith-Taylor. Rig.
Mid-Kansas and Transcontinental's No. 13 Smith-Taylor.. Drlg. 1,125 ft.
Mid-Kansas and Transcontinental Co.'s No. 14 Smith-Taylor, Sec. 33, Blk. 194, G.C.&S.F.R.R. Sur. ..... Shut down 1,090 ft.
Oregon Oil Corp.'s No. 1 Yates ..... Shut down 1,430 ft.; 350 ft. oil at 1,1369 ft.; 1,000 ft. sulphur wtr., 1,428-30 ft.

T. G. Shaw's No. 1 Yates, Sec. 58, Blk. 1, I.&G.N. Sur. ... Location.
Skelly Oil Co.'s No. 1 J. H. Tippett, Runnels County School Land A-2,169, Sec. 108, Blk. 194, G.C.& S.F.R.R. ..... Top pay 1,280 ft.; total depth 1,390 ft.; flowing 150 bbls. day.

PRESIDIO COUNTY

Headlock & Miller's No. 1 Tootie Est., Sec. 123, Blk. 3, D.&P. Sur., elev. 2,912 ft. ..... Salt water 2,610 ft.; total depth 3,003 ft.; shut down for orders.

Pinto Canyon Oil Co.'s No. 1 Fields, 1,760 ft. S and E NW cor. Sec. 74, Blk. 2, D.&P. Sur. ..... Location.

REAGAN COUNTY

California Oil Co.'s No. 4 University, NW cor. Sec. 3, Blk. 7 ..... Top salt 1,340 ft.; drlg. 2,760 ft.
Hagan & Emch's No. 1 E. W. Loftin, C E half Sec. 1,271, D.&S.E. Sur. ..... Top salt 1,065 ft.; underreaming 2,725 ft.

Marland Oil Co.'s No. 1 University, SE cor. SW Sec. 26, Blk. 8 ..... Top salt 1,360 ft.; drlg. 1,390 ft.
Moody Oil Co.'s No. 1 R. A. Walters ..... Rig.
Roxana Pet. Co.'s No. 1 Sawyer Cattle Co., 2,000 ft. S of CNL Sec. 15, Blk. A, R. Casey Sur. ..... Top salt 1,105; drlg. 2,830 ft.
Skelly Oil Co.'s No. 2 University, SE SW SE Sec. 35, Blk. 8 ..... Rig.
The Texas Company's No. 3 J. D. Sugg, C Sec. 165, Blk. 2, T.&P.R.R. Sur. ..... Top salt 990 ft.; drlg. 2,435 ft.
Texon O. & L. Co.'s No. 1-B University, Group 1 ..... Top pay 6,250 ft.; 2,000 ft. oil; drlg. 7,980 ft.

White et al's No. 1 Shofner & Sterling, NE cor. NW Sec. 10, 2 m. N of Big Lake ..... Top salt 1,275 ft.; hole full fresh water 2,155 ft.; slight show oil 2,580 ft.; shut down 2,595 ft.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Shut down 1,970 ft.
Grisham-Hunter Corp.'s No. 1 Rathge & Connor, 600 ft. from N line and 5,760 ft. from W line of Sec. 26, Blk. 2, H.&G.N. ..... Top salt 1,037 ft.; drlg. 1,930 ft.
David R. Thompson's No. 1 A. A. Eddins ..... Total depth 5,126 ft.; rigging up to drill to 6,000 ft.

Vacuum Oil Co.'s No. 1 Grisham-Hunter ..... Drlg. 2,590 ft.

RUNNELS COUNTY

Empire G. & F. Co.'s No. 1 C. C. Gray, Sec. 147, E.T.R.R. Sur. ..... Hole full fresh water 2,250-57 ft.; small show oil 2,460-90 ft.; shut down for orders 2,602 ft.

Gibson & Johnson's No. 1 Harris Est., Juliana Voske Cabrera Sur. ..... Location.
Gibson & Johnson's No. 1 H. P. Berratt, C SE NW Sec. 150, E.T.R.R. Sur. ..... Drlg. 2,150 ft.
Globe Oil Co.'s No. 1 J. H. Webb ..... Drlg. 2,200 ft.
Jones Oil Syndicate's No. 1 W. Hale ..... S.D., 2,000 ft.
McLean et al's No. 1 G. W. Clayton ..... C.O., 1,050 ft.
Marland Oil Co.'s and E. L. Smith Oil Co.'s No. 1 A. C. Herring, C Sec. 121, E.T.R.R. Sur. (3,000-ft. test) .... Drlg. 375 ft.
Marland Oil Co.'s No. 1 R. R. Russell, near CSL J.F.G. Sur. ..... Drlg., 385 ft.
Kennedy et al's No. 1 J. E. Tally ..... Drlg. 2,060 ft.
May et al's No. 1 J. M. Schneider, John Wall Sur. ..... ½ bailer salt water 1,032 ft.; hole full water 1,100-20 ft.; fishing 1,775 ft.

Miles Oil Co.'s No. 1 Charles Ray, Sec. 21, T.&N.O. Sur. ..... Cellar and machine.
Miles Oil Co.'s No. 1 L. S. Lawhon, NE cor. Sec. 63. .... Show gas 960-80 ft.; shut down 2,449 ft.

Royal Pet. Co.'s No. 1 A. C. Willingham ..... Preparing to run 10-in. 1,410 ft.
Billix Pet. Co.'s No. 1 Malone ..... Location.
R. B. Summers et al's No. 1 J. W. Reese, M. J. Parramore Sur. No. 26 ..... S.D., 750 ft.
Swensondale Oil Co.'s No. 1 E. A. Werner ..... Fish., 2,449 ft.
Vacuum Oil Co., Lou Ladd et al's No. 1 J. S. Flanagan, NW cor. Subdivision No. 29, Domingo Diaz Sur. No. 532 ..... Moving in material.
Vacuum Oil Co. et al's No. 1 H. B. Fowler, subdivision No. 23, Domingo Diaz Sur. No. 532 ..... Rigging up.
Watchorn O. & G. Co.'s No. 1 J. L. King ..... Hole full salt water, 1,633-91 ft.; shut down 3,300 ft.

SCHLEICHER COUNTY

Beavers & Leath et al's No. 1 J. A. and W. T. Whitten, C NW Sec. 35, Blk. 11, T.O. Sur. ..... Shut down 400 ft.

SCURRY COUNTY

J. B. Mims et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C. Sur. ..... Rig on ground.

STERLING COUNTY

Orr et al's (to be taken over by Empire G. & F. Co.) No. 1 Neal Reed, CNL Sec. 15, Blk. 36, W.&N.W Sur. ..... Shut down 1,390 ft. (cor.).

STONEWALL COUNTY

Henshaw Oil Corp.'s No. 1 W .P. Moore, Sec. 136, Blk. 1, H.&T.C. Sur. ..... Rig.

SUTTON COUNTY

J. D. Nantz et al's No. 1 G. Allison, C NE Sec. 29, Blk. B, H.E.&W.T.R.R. Sur. ..... S.D., 100 ft.
National Potash Co.'s No. 1 J. N. Ross ..... Coring shale 1,300 ft.

TAYLOR COUNTY

A. J. Brown et al's No. 1 Henslee, NE cor. Sec. 5, Blk. 4, S.P.R.R. Sur. ..... Shut down 2,935 ft.
Dorning & Perrine's No. 1 J. A. Hammer, C N 100 acres, Sec. 12 Blk. 19, T.&P. Sur., elev. 1,904 ft. .... Shut down 455 ft.

Gilbert Johnson and Day Bros.' No. 1 C. M. Brown, Sec. 1, Blk. 6, T.&P. Sur. ..... Hole full water 2,170-2,220 ft., cased off; shut down 3,003 ft., contract depth.

Owen & Sloan's No. 1 Lattimer, Sec. 14, Blk. 9, T.&P. Sur. ..... Pulling pipe to abandon 3,001 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett ..... Location.
Champlin Ref. Co.'s No. 1 Corder, C Sec. 110, Blk. 1, C.C.S.D. Sur. ..... Drlg. 2,107 ft.
Deep Rock Oil Co.'s No. 1 H. C. Nolke, Sec. 4, Blk. A-2, T.C.R.R. Sur. ..... Shut down 1,875 ft.; bad hole.
Humble Oil Co.'s No. 1 University, Sec. 15, Blk. 34 ..... Drlg. 1,800 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Blk. D-7, E.L.&R.R. Sur. ..... Moving in material.
Milham Exploration Co.'s No. 1 Bassett, Sec. 77, Blk. Y, W. H. Robertson Sur. ..... Fish., 2,409 ft.
Bryan and Breen's No. 1 Allison & Burke, C NW Sec. 10, Blk. 176, Texas-Mex. R.R. Sur. ..... Rig.
Woodley & Jones' No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.R.G.&N.G.R.R. Sur. ..... Rig.

TERRY COUNTY

Kingsland O. & P. Co.'s No. 1 Brownfield, C NW SW SW Sec. 7, Blk. 1-A, E.L.R.R. Sur. ..... S.D., 4,008 ft; contract depth.

TOM GREEN COUNTY

George Amery's No. 1 Wilkey, C SW Sec. 3, B.A.L. Sur. ..... Location.
Collins et al's No. 1 Jones, CSL Sec. 646, Shaffer Sur. .... Rig.
Cox et al's No. 1 Liano ..... Drlg., 673 ft.
Fitzgerald & Tallaterro's No. 1 Bennett ..... Shut down 1,955 ft.
Lone Eagle Oil Co.'s No. 1 Sharp, SE W Elzel Sur. No. 167 ..... Spudded and S.D.
Marland Oil Co.'s No. 1 J. W. Johnson-A ..... S.D., 3,355 ft.
Tulsa Oil Co.'s No. 1 Adams, C SW Sec. 163, Blk. 11, S.P.R.R. Sur. ..... Shut down 1,020 ft.
Haubelt et al's No. 1 Johnson ..... S.D., 1,205 ft.
World Oil Co.'s No. 1 Mrs. F. T. March ..... Location.

UPTON COUNTY

Mark Curtis et al's (was Hultz et al's) No. 2 Giddings, 5,336 ft. S and 6,675 ft. E of NW cor. Throckmorton C. School Land, League 1, elev. 2,757 ft. ..... Shut down 975 ft.
Penn and Atlantic's No. 1 Live Stock Exchange, Sec. 34, Blk. 38 ..... Cem. 15-in. casing 325 ft.
Snowden & McSweeney's No. 2 Ed S. Hughes, Sec. 9, Blk. 3½, C.C.S.D.&R.G.N.G.R.R. Sur. ..... Top salt 625 ft.; drlg. 1,575 ft.
The Texas Company and Corsicana Union's No. 1 Union Land, Sec. 23, Blk. 36, H.&T.C. ..... Top pay 2,098 ft.; swabbed 60 bbls. in 36 hrs. at 2,271 ft., 2 per cent water; 2,200 ft. sulphur water 2,390-2,405 ft.; total depth 3,201 ft.; plugged back to 2,150 ft. and lost bailer; fishing.

Wise & Jackson's No. 1 J. H. Porter, SW cor. SW SW Sec. 184, Blk. E, elev. 2,592 ft. ..... Top pay 2,419 ft.; total depth 3,517 ft., gray lime; shut down.

VAL VERDE COUNTY

A. Blume et al's No. 1 Moore Est., Sec. 155, J. Mitchell Sur., elev. 953 ft. ..... Shut down 3,000 ft.
Curso Williams' No. 1 Holman, NE NE Sec. 5, Blk. N, G.H.&S.A. Sur. ..... Shut down 2,940 ft.
East Del Rio Oil Co.'s No. 1 Russell, SE cor. Sec. 183, Del Rio Town Sur., elev. 941 ft. ..... S.D., 3,320 ft.
Magnolia Pet. Co.'s No. 1 Whitehead, Sec. 81, D.G.C. &S.F. Sur., elev. 1,770 ft. ..... Drlg. 6,378 ft.
Independent Operator's No. 1 Whitehead, SE SE Sec. 30, Blk. 4, L.&G.N. Sur., elev. 1,175 ft. ..... Shut down 3,900 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, L.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,750 ft. gas; reset 8-in. 1,111 ft.; shut down 4,210 ft.

W. B. Thraves et al's No. 1 W. E. Wilson ..... Shut down 905 ft.

WARD COUNTY

Alfredo Del Cambre's No. 1 Lee Monroe, Sec. 59, Blk. 33, H.&T.C. Sur. ..... Spudded and shut down.
E. H. Devore et al's No. 1 Black, Sec. 214, Blk. 34, H.&T.C. Sur. ..... Spudded and shut down.
Estex Oil Co.'s No. 1 W. A. Estes, Sec. 4, Blk. B-29, 3,500-foot test ..... Bldg. rig.
Selby Oil Co. et al's No. 1 G. Dooley et al, Sec. 85, Blk. A, G.M.M.&A. Sur. ..... Drlg. 1,160 ft.

WINKLER COUNTY

Amerada Pet. Corp.'s No. 1 J. B. Walton, SW cor. NW Sec. 48, Blk. 26, elev. 2,833 ft. ..... Wtr. shut off; making 15,000,000 ft. gas and slight spray oil, drlg. cavings 2,440 ft.; rigging up to clean out tools.

Atlantic O. P. Co.'s No. 2 Grisham-Hunter-A, Sec. 34, Blk. B-5 ..... Shot 480 qts. 2,850-2,999 ft.; shot 960 qts. 2,800-2,991 ft.; no results; total depth 3,000 ft.; moving in rotary.

Atlantic O. P. Co.'s No. 5 Grisham-Hunter-"A", SW NE SW Sec. 34, Blk. B-5 ..... Top salt 1,610 ft.; top lime 2,450 ft.; drlg. 2,585 ft.

Atlantic O. P. Co.'s No. 6 Grisham-Hunter, NW cor. SE SW Sec. 34, Blk. B-5 ..... Top salt 1,400 ft.; top lime 2,450 ft.; drlg. 2,785 ft.

Atlantic O. P. Co.'s No. 7 Grisham-Hunter-A, NE SE E half, SW Sec. 34, Blk. B-5 ..... Top lime 2,490 ft.; setting 8-in. casing 2,493 ft.

Atlantic O. P. Co.'s No. 8 Grisham-Hunter-A, SE NE E half SW Sec. 34, Blk. B-5 ..... Drlg. 1,000 ft.
Atlantic O. P. Co.'s No. 2 Grisham-Hunter-E, NW cor. Sec. 41, Blk. B-5 ..... New location.
Atlantic O. P. Co.'s No. 3 Grisham-Hunter-"E", CNL N half NE Sec. 41, Blk. B-5 ..... Location.
Atlantic O. P. Co.'s No. 4 Grisham-Hunter-E, SE NE NE Sec. 41, Blk. B-5 ..... Top salt 1,274 ft.; top lime 2,210 ft.; drlg. 2,469 ft.

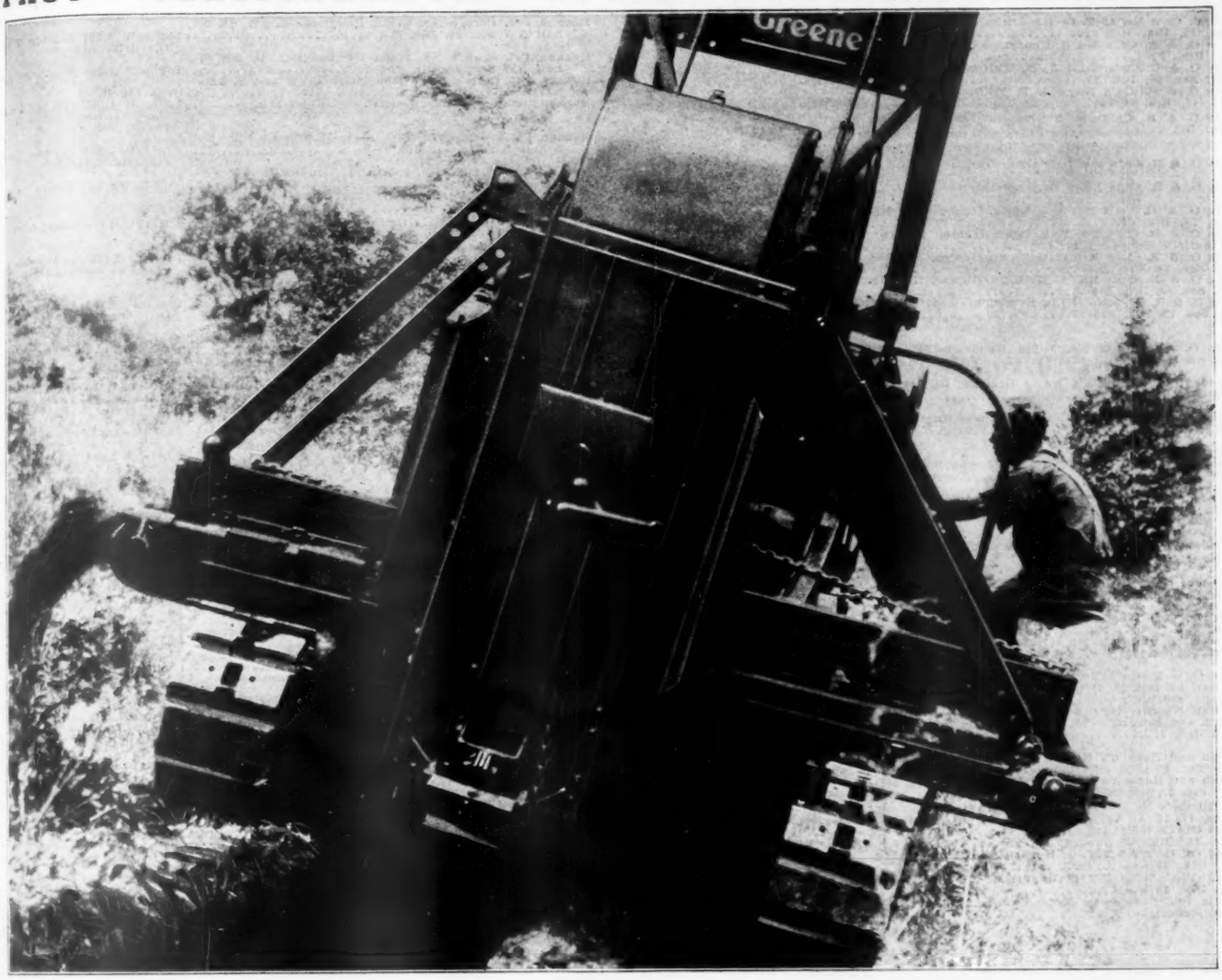
Atlantic O. P. Co.'s and Collett's No. 3 Hendrick-F, NW NE NW Sec. 40, Blk. 46 ..... Drlg. 728 ft.
Atlantic and Collett's No. 4 Hendrick-F, NE NW Sec. 40, Blk. 26 ..... Drlg. 1,176 ft.
Atlantic O. P. Co.'s No. 1 Grisham-Hunter-C (was Lemar) SW cor. Sec. 40, Blk. B-5 ..... Total depth 2,978 ft.; gas pressure split connections; est. 75,000,000 ft. gas; running wind; trying to kill gas; top salt 1,973 ft.; top lime 2,200 ft.

Atlantic O. P. Co.'s No. 3 Ida Hendricks-D, NW SE NW Sec. 29, Blk. B-5 ..... Top salt 1,415 ft.; drlg. 2,571 ft.
Atlantic O. P. Co.'s No. 4 Ida Hendricks-D, NE SW NW Sec. 29, Blk. B-5 ..... Top salt 1,536 ft.; top lime 2,500 ft.; drlg. plug 2,590 ft.

Atlantic O. P. Co.'s No. 5 Ida Hendricks-D, SW SE S half NW Sec. 29, Blk. B-5 ..... Drlg. 968 ft.
Atlantic O. P. Co.'s No. 6 Hendricks-D, SE cor. SW S half NW Sec. 29, Blk. B-5 ..... Drlg. 1,006 ft.
Atlantic O. P. Co.'s No. 7 Hendricks-D, NW cor. SW S half NW Sec. 29, Blk. B-5 ..... Drlg. 575 ft.
Atlantic O. P. and Collett's No. 2 Ida Hendricks-F ..... Top salt 1,984 ft.; top lime 2,460 ft.; drlg. 2,592 ft.

V. T. Bolin et al's No. 1 Brown ..... Shut down 1,257 ft.
Cranfill & Reynold's No. 1 Hendricks-D, SW NW NW Sec. 33, Blk. 26 ..... Location.
Danciger et al's No. 1 John Sealy, SW cor. NE Sec. 93, Blk. A, G.M.M.B.&A. Sur. ..... Shut down.
Gibson-Johnson and Kesslar & Logan's No. 1 Lack, C SW Sec. 3, Blk. 74 ..... Top salt, 1,980 ft; S.D., 2,761 ft.
Gibson-Johnson's No. 1 Lunn Daugherty, SE NW SW Sec. 3, Blk. 74 ..... Location.
Gulf Prod. Co.'s No. 2 T. G. Hendricks, NE NW NW Sec. 34, Blk. B-5 ..... Rig standing.
Gulf Prod. Co.'s No. 8 T. G. Hendricks, Sec. 34, Blk B-5.. Top lime 2,480 ft.; to drill new hole.
Gulf Prod. Co.'s No. 9 T. G. Hendricks, Sec. 34, Blk. B-5.. Top salt 1,837 ft.; top lime 2,510 ft.; top pay 2,524 ft.; drlg. 2,707 ft.
Gulf Prod. Co.'s No. 11 T. G. Hendricks, Sec. 34, Blk. B-5.. Top salt, 1,625 ft; top lime, 2,453 ft.; drlg. 2,613 ft.

FAST — VERTICAL BOOM — OVERLOAD RELEASE — COMPACT



TO prove that no Barber-Greene coughs apologetically and calls for pick and shovel help on anything at all diggable — we cite the many instances of tough digging detailed in "Ditching Snapshots and Records."

To prove that such a ditcher earns new profits, even on digging ordinarily turned over to picks and shovels, we cite the cost records listed in the same book.

NO APOLOGIES AND NO HIGH COSTS

There is Both Progress and Profit in Barber-Greene Ditching

To illustrate why the Barber-Greene is able to do these things, which other ditchers cannot, we point to the Vertical Digging Boom and its milling action digging and to the Automatic Overload Release which protects the ditcher against underground hazards.

A copy of "Ditching Snapshots and Records" will be sent on request — without obligation, of course.

Barber-Greene Company, 600 West Park Ave., Aurora, Illinois

Vertical Boom Barber-Greene DITCHER

Four to Seven Feet Maximum Depths
Standard Widths: Eighteen to Twenty-Four Inches
Also, Conduit and Curb and Gutter Specials

Gulf Prod. Co.'s No. 12 T. G. Hendricks, Sec. 34, Blk. B-5 — Top lime, 2,342 ft; top salt, 1,410 ft.; drlg. 2,344 ft.

Gulf Prod. Co.'s No. 13 T. G. Hendricks, Sec. 40, Blk. B-5 — Top salt 1,340 ft.; top lime 2,244 ft.; drlg. 2,632 ft.

Gulf Prod. Co.'s No. 15 T. G. Hendricks, C NW SW NW Sec. 40, Blk. B-5 — Drlg. 1,374 ft.

Humble O. & R. Co.'s No. 1 Hendricks-C, SE cor. Sec. 32, Blk. 26 — Drlg. 2,200 ft.

Humble O. & R. Co.'s No. 1 J. B. Walton-B, SE cor. N half Sec. 47, Blk. 26 — Derrick.

Humble O. & R. Co.'s No. 1 J. B. Walton-A, NW cor. Sec. 48, Blk. 26 — Derrick.

Humble O. & R. Co.'s No. 3 Grisham-Hunter, Sec. 34, Blk. B-5 — Top salt, 1,362 ft; top lime, 2,188 ft; S.D., 2,898 ft; 50,000,000 ft. gas.

Humble O. & R. Co.'s No. 7 Grisham-Hunter — Top salt, 1,240 ft; top lime, 2,530 ft.; drlg. 2,772 ft.

Humble O. & R. Co.'s No. 8 Grisham-Hunter — Top salt 1,240 ft.; top lime 2,323 ft.; drlg. 2,885 ft.

Humble O. & R. Co.'s No. 9 Grisham-Hunter, NE NE Sec. 34, Blk. B-5 — Setting 12-in. casing 358 ft.

Humble O. & R. Co.'s No. 11 Grisham-Hunter, SW cor. W half NW Sec. 41, Blk. B-5 — Drlg. 440 ft.

Humble O. & R. Co.'s No. 12 Grisham-Hunter, NE SW NE Sec. 34, Blk. B-5 — Drlg. 426 ft.

Humble O. & R. Co.'s No. 13 Grisham-Hunter, NW SE NE Sec. 34, Blk. B-5 — Rig.

Humble O. & R. Co.'s No. 4 Ida Hendricks-B, SE N half SE Sec. 29, Blk. B-5 — Top salt 1,200 ft.; top lime 2,625 ft.; top pay 3,016 ft.; total depth 3,024 ft.

Humble O. & R. Co.'s No. 5 Ida Hendrick-"B", NW NE SE Sec. 29, Blk. B-5 — Top salt, 1,250 ft; top lime, 2,552 ft.; drlg. 2,566 ft.

Independent O. & G. Co.'s No. 3 Grisham-Hunter, SE NW SW Sec. 34 — Top salt 1,485 ft.; top lime 2,505 ft.; setting 8-in. casing 2,508 ft.

Independent O. & G. Co.'s No. 4 Grisham-Hunter, NE SW SW Sec. 34 — Top salt, 1,480 ft; top lime, 2,547 ft.; top pay 2,861 ft.; total depth 2,862 ft.; est. 2,000-bbl. well.

Independent O. & G. Co.'s No. 3 Vardeman-B, SE NE NW Sec. 41, Blk. B-5 — Top salt 1,340 ft.; top lime 2,328 ft.; drlg. 2,782 ft.

Independent O. & G. Co.'s No. 4 Vardeman-B, SW cor. E half NW Sec. 41, Blk. B-5 — Top salt 1,552 ft.; top lime 1,552 ft.; top pay 2,615 ft.; est. 600 bbls.; shut down 2,685 ft.

Independent O. & G. Co.'s No. 5 Vardeman-B, NW SE NW Sec. 41, Blk. B-5 — Top salt 1,570 ft.; top lime 2,395 ft.; drlg. 2,397 ft.

Independent O. & G. Co.'s No. 1 E. W. Cowden, SE NW NW Sec. 36, Blk. B-5 — Straightreaming 2,440 ft.; total depth 2,540 ft.

Liner Drlg. Co.'s No. 1 Seth-Campbell, NE cor. Sec. 2, Blk. B-5 — Shut down 450 ft.

Humble O. & R. Co.'s No. 6 Ida Hendrick-"B", NE NW SE Sec. 29, Blk. B-5 — Top salt 1,345 ft.; top lime 2,516 ft.; drlg. 2,727 ft.

Humble O. & R. Co.'s No. 7 Ida Hendricks-B, SE NW N half SE Sec. 29, Blk. B-5 — Location.

Landreth Prod. Co.'s No. 1 T. G. Hendricks-B, NW cor. E half NE Sec. 40, Blk. 26 — Location.

Landreth and Roxana's No. 2 Ida Hendricks-A, Sec. 29, Blk. B-5 — Top salt 1,440 ft.; top lime 2,670 ft.; drlg. 2,880 ft.

Landreth and Roxana's No. 5 Ida Hendrick-A, NW NE SW Sec. 29, Blk. B-5 — Top lime 2,655 ft.; drlg. 2,665 ft.

Landreth and Roxana's No. 6 Hendricks-A, NE cor. NW SW Sec. 29, Blk. B-5 — Drlg. 880 ft.

Llano Oil Co.'s No. 1 F. B. Armstrong, at common cor. Secs. 12, 13, 18 and 19, Blk. B-6, School Land — Location.

Marland Oil Co.'s No. 1 T. G. Hendricks, SE cor. W half Sec. 33, Blk. 26 — Drlg. 1,415 ft.

Marland Oil Co.'s No. 2 T. G. Hendricks, NE SE SE Sec. 33, Blk. 26 — Cellar.

Marland Oil Co.'s No. 3 T. G. Hendricks, NE SE SW Sec. 33, Blk. 26 — Rigging.

Magnolia Pet. Co.'s (was G. M. Church et al's) No. 3 Ida Hendricks — Show oil 2,750 ft.; top pay 2,865 ft.; total depth 2,961 ft.; ran 5-in. with packer to 2,955 ft.; failed to shut off water; plugging back.

Magnolia Pet. Co.'s No. 5 Ida Hendricks — Top salt 1,624 ft.; top lime 2,509 ft.; reaming 2,975 ft.

Magnolia Pet. Co.'s No. 6 Ida Hendricks, Sec. 29, Blk. B-5 — Top salt 1,430 ft.; top lime 2,420 ft.; top pay 2,750 ft.; underreaming 6-in. casing 2,845 ft.

Magnolia Pet. Co.'s No. 7 Ida Hendricks — Top lime 2,442 ft.; top salt 1,365 ft.; drlg. 2,880 ft.

Magnolia Pet. Co.'s No. 8 Ida Hendricks — Top salt 1,510 ft.; top lime 2,495 ft.; bailing casing 2,598 ft.

Murchison Oil Co. et al's No. 1 Grisham-Hunter-B, NE cor. SW SW Sec. 35, Blk. B-5 — Top salt 1,335 ft.; shut down 2,427 ft.

Murchison Oil Co. et al's No. 2 Grisham-Hunter-B — Location.

Mining & Engineering Co.'s No. 1 T. G. Hendricks, Sec. 10, Blk. B-12 — Hole full fresh water; shut down 1,232 ft.

Murchison Oil Co. and Cranfill Bros.' No. 2 Grisham-Hunter-A — Location.

Murchison Oil Co. and Cranfill Bros.' No. 4 Grisham-Hunter — Location.

Murchison Oil Co. and Cranfill Bros.' No. 1 Hendricks-H (5-acre tract), Sec. 33, Blk. 26 — Rig.

Pure Oil Co.'s No. 4 Hendricks — Top lime 2,402 ft.; drlg. 2,421 ft.

Pure Oil Co.'s No. 5 Hendricks — Top salt 1,643 ft.; top lime 2,461 ft.; drlg. 2,471 ft.

Pure Oil Co.'s No. 4 Hendricks-B — Top lime 2,404 ft.; top salt 1,504 ft.; drlg. 2,880 ft.

Pure Oil Co.'s No. 5 Hendricks-B, SE SW SE Sec. 34, Blk. B-5 — Top lime 2,420 ft.; top salt 1,412 ft.; drlg. 2,712 ft.

Pure Oil Co.'s No. 6 Hendricks-B — Top salt 1,315 ft.; top lime 2,388 ft.; drlg. 2,696 ft.

Pure Oil Co.'s No. 7 Hendricks-B, NE SE SE Sec. 34, Blk. B-5 — Setting 8-in. casing 2,334 ft.

Pure Oil Co.'s No. 8 Hendricks-B, SE NE SE Sec. 34, Blk. B-5 — Top salt 1,479 ft.; drlg. 2,112 ft.

Pure Oil Co.'s No. 9 Hendricks-B, NW NE SE Sec. 34, Blk. B-5 — Top salt 1,240 ft.; drlg. 1,885 ft.

Pure Oil Co.'s No. 10 Hendricks-B, NE NW SE Sec. 34, Blk. B-5 — Drlg. 1,557 ft.

Pure Oil Co.'s No. 11 Hendricks-B, SW NW SE Sec. 34, Blk. B-5 — Drlg. 505 ft.

Pure Oil Co.'s No. 12 Hendricks-B, NW SW SE Sec. 34, Blk. B-5 — Drlg. 1,775 ft.

Pure Oil Co.'s No. 1 Grisham-Hunter-C — Lost returns; mixing mud 2,140 ft.

Pure Oil Co.'s No. 6 Grisham-Hunter, NW SW Sec. 41, Blk. B-5 — Top salt 2,015 ft.; drlg.

Republic Prod. Co.'s No. 1-A Grisham-Hunter-B, SW cor. E half SE Sec. 41, Blk. B-5 — Top salt 1,240 ft.; top lime 2,135 ft.; standardizing 2,390 ft.

Republic Prod. Co.'s No. 3 Grisham-Hunter-B, NE cor. SE Sec. 41, Blk. B-5 — Top lime 2,197 ft.; top salt 1,280 ft.; total depth 2,980 ft.; killing gas.

Republic Prod. Co.'s No. 4 Grisham-Hunter-B, NW cor. E half SE Sec. 41, Blk. B-5 — Top lime 2,355 ft.; drlg. 2,750 ft.

Republic Prod. Co.'s No. 2 Hendricks-A, NE E half SW Sec. 45, Blk. 26 — Top salt 1,240 ft.; top lime 2,135 ft.; fishing 2,362 ft.

Republic Prod. Co.'s No. 1 Hendricks-C, SW NE NE Sec. 42, Blk. B-5 — Building rig; shut down.

Republic Prod. Co.'s No. 2 Ida Hendricks-C, Sec. 42, Blk. B-5 — Location.

Roxana Pet. Corp.'s No. 4 Hendricks-B, NE cor. SW S half SE Sec. 29, Blk. B-5 — Setting 12-in. casing 379 ft.

Roxana Pet. Corp.'s No. 5 Ida Hendricks-B, SE cor. SW S half SE Sec. 29, Blk. B-5 — Location.

Roxana Pet. Corp.'s No. 6 Ida Hendricks-C, SW SE N half NW Sec. 29, Blk. B-5 — Top salt, 1,302 ft.; top lime 2,530 ft.; drlg. 2,785 ft.

Roxana Pet. Corp.'s No. 7 Ida Hendricks-C, SE SW N half NW Sec. 29, Blk. B-5 — Top salt 1,326 ft.; drlg. 2,350 ft.

Roxana Pet. Corp.'s No. 8 Hendricks-C, SW cor. N half NW Sec. 29, Blk. B-5 — Drlg. 740 ft.

Roxana Pet. Corp.'s No. 3 Grisham-Hunter-D — Top salt 1,170 ft.; top lime 2,190 ft.; total depth 2,776 ft.; 5,000,000 ft. gas.

Roxana Pet. Corp.'s No. 4 Grisham-Hunter-D, NE cor. S half NE Sec. 41, Blk. B-5 — Top salt 1,230 ft.; top lime 2,200 ft.; drlg. 2,641 ft.

Roxana Pet. Corp.'s No. 5 Grisham-Hunter-D, SE SW NE Sec. 41, Blk. B-5 — Shut down 600 ft.

Roxana Pet. Corp.'s No. 6 Grisham-Hunter-D, SW SE NE Sec. 41, Blk. B-5 — Cellar.

Roxana Pet. Corp.'s No. 1 Grisham-Hunter-E — Setting 8-in. casing 2,221 ft.

Roxana Pet. Corp. and Llano Oil Co.'s No. 2 W. F. Scarborough, SW cor. NE Sec. 1, Blk. C-22, School Land — Top salt 1,120 ft.; top pay 3,135-40 ft.; shut down 3,212 ft.; repairing rig.

Sheldon & Burden's No. 1 Ida Hendricks, SW cor. SE Sec. 28, Blk. B-5 (10-a. tract) — Top salt 1,260 ft.; top lime 2,480 ft.; top pay 2,719 ft.; total depth 3,243 ft.; shut down.

Skelly Oil Co.'s No. 1 Hendricks, NW cor. W half NE sec. 40, Blk. 26 — Setting 12-in. casing 685 ft.

Southern C. O. P. Co.'s No. 2 T-89 Grisham-Hunter-A, Sec. 35, Blk. B-5 — Top salt 1,189 ft.; drlg. 2,391 ft.

Southern C. O. P. Co.'s No. 3 T-89-A Grisham-Hunter-A — Top salt 1,072 ft.; top lime 2,310 ft.; drlg. 2,352 ft.

Southern C. O. P. Co.'s No. 4 T-89-A Grisham-Hunter-A — Rig.

Southern C. O. P. Co.'s No. 1 Ida Hendricks, 3-T-67-A, C SW NW NE Sec. 4, Blk. B-12, elev. 2,784 ft. — Top lime 2,632 ft.

Southern C. O. P. Co.'s No. 2 T-67-A, NE SE Sec. 42, Blk. B-5 — Top salt 1,835 ft., top lime 2,420 ft.; setting 6-inch casing 2,424 ft.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-67-A, NE cor. SE SE Sec. 42, Blk. B-5 — Location.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-67-A, SE cor. NE Sec. 42, Blk. B-5 — Location.

Southern C. O. P. Co.'s No. 2 Ida Hendricks 3-T-67-A — Top salt 1,525 ft.; top lime 2,404 ft.; drlg. 2,913 ft.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-67-3-A, Sec. 4, Blk. B-12 — Rig.

Southern C. O. P. Co.'s No. 1 Ida Hendricks, T-67-E, SE NE Sec. 42, Blk. B-5 — Total depth 2,573 ft.; stuck 6-in. casing.

Southern C. O. P. Co.'s No. 2 Ida Hendricks, T-67-E, NE cor. SE NE Sec. 42, Blk. B-5 — Location.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-67-E, SE cor. NE NE Sec. 42, Blk. B-5 — Location.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-67-E, NE cor. Sec. 42, Blk. B-5 — Location.

Southern C. O. P. Co.'s No. 2 T-67 Ida Hendricks-F — Top salt 1,715 ft.; cem. 6-in. 1,910 ft., shut down 2,250 ft.

Southern C. O. P. Co.'s No. 5 T-67 Ida Hendricks-C — Top pay 2,890 ft.; drlg. 3,025 ft.

Southern C. O. P. Co.'s No. 2 T-67 Hendricks-B — Top salt 1,566 ft.; top lime 2,411 ft.; drlg. 2,983 ft.

Southern C. O. P. Co.'s No. 1 T-67 Hendricks-3-B — Top lime 2,505 ft.; drlg. 2,611 ft.

Southern C. O. P. Co.'s No. 2 T. G. Hendricks, T-67-33, NE SW SW Sec. 33, Blk. 26 — Top lime 2,436 ft.; drlg. 2,547 ft.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-67-B, SE NE SE Sec. 44, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-67-B, NE SE SE Sec. 44, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 5 Ida Hendricks, T-67-B, SE cor. SE Sec. 44, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 3 Hendricks 3-T-88-A — Gas 2,400 ft.; 8,000,000 ft. gas 2,420 ft.; total depth 2,430 ft.; drlg. by tools.

Southern C. O. P. Co.'s No. 1 T-88 Ida Hendricks-C, NW cor. Sec. 28, Blk. B-5 — 6,000,000 ft. gas 2,665 ft.; top pay 2,883-96 ft.; 500 ft. oil; total depth 2,915 ft.; drlg. by tools.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-88-C — Top salt 1,290 ft.; top lime 2,531 ft.; cleaning out 3,050 ft. after shot.

Southern C. O. P. Co.'s No. 1 Ida Hendricks, T-88-G, SW SE Sec. 28, Blk. B-5 — Top lime 2,612 ft.; drlg. 2,643 ft.

Southern C. O. P. Co.'s No. 2 T-88 Hendricks-H — Top salt 1,232 ft.; drlg. 2,562 ft.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-88-H, SW NW SW Sec. 28, Blk. B-5 — Top salt 1,300 ft.; setting 8-in. casing 2,702 ft.

Southern C. O. P. Co.'s No. 2 T-88 Hendricks-A — Top lime 2,703 ft.; drlg. 2,810 ft.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-88-A, NE SE NE Sec. 44, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-88-A, SE NE SE Sec. 44, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 5 Ida Hendricks, T-88-A, NE cor. Sec. 44, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 2 Ida Hendricks, T-88-I, SE NE E half NE Sec. 30, Blk. B-5 — Rig.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-88-I, NE SE E half NE Sec. 30, Blk. B-5 — Rig.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-88-I, SE cor. E half NE Sec. 30, Blk. B-5 — Location.

Southern C. O. P. Co.'s No. 1 T. G. Hendricks, T-88-K, NE cor. Sec. 41, Blk. 26 — Top salt 1,706 ft.; drlg. 2,006 ft.

Southern C. O. P. Co.'s No. 2 T. G. Hendricks, T-88-K, SE NE SE Sec. 41, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 3 T. G. Hendricks, T-88-K, NE SE NE Sec. 41, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 4 T. G. Hendricks, T-88-K, SE NE SE Sec. 41, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 5 T. G. Hendricks, T-88-K, NE NE SE Sec. 41, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 6 T. G. Hendricks, T-88-K, SE NE SE Sec. 41, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 7 T. G. Hendricks, T-88-K, NE SE SE Sec. 41, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 8 T. G. Hendricks, T-88-K, SE cor. SE Sec. 41, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 1 Hendricks, T-88-M, SW cor. SE Sec. 33, Blk. 26 — Drlg. 75 ft.

Southern C. O. P. Co.'s No. 2 Hendricks, T-88-M, NW SW SE Sec. 33, Blk. 26 — Moving in material.

Southern C. O. P. Co.'s No. 3 Hendricks, T-88-M, SE NE SE Sec. 33, Blk. 26 — Location.

Southern C. O. P. Co.'s No. 1 E. G. Hutchings, T-90, NE cor. E half SE Sec. 47, Blk. 26, elev. 2,835 ft. — Top salt 935 ft.; top lime 2,340 ft.; drlg. 2,705 ft.

Texon O. & L. Co.'s No. 2 Grisham-Hunter-A — Top lime 2,250 ft.; setting 6-in. casing 2,685 ft.

Texon O. & L. Co.'s No. 3 Grisham-Hunter-A, NW cor. W half SE Sec. 41, Blk. B-5 — Top salt 1,450 ft.; top lime 2,324 ft.; shut down 2,539 ft.

Texon O. & L. Co.'s No. 4 Grisham-Hunter-A, NE cor. W half SE Sec. 41, Blk. B-5 — Rig.

Turman & Maxwell's No. 5 Hendricks, SE cor. E half NE Sec. 29, Blk. B-5 — Top lime 2,560 ft.; top salt 1,291 ft.; fishing 2,966 ft.

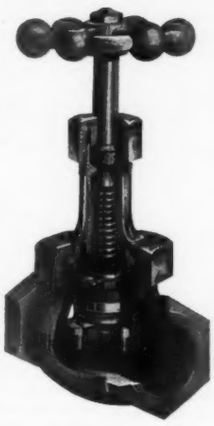
Turman & Maxwell's No. 6 Hendricks, NW cor E half NE Sec. 29, Blk. B-5 — Top salt 1,317 ft.; top lime 2,471 ft.; top pay 2,780 ft.; cleaning out 2,930 ft.

Turman & Maxwell's No. 8 Hendricks — Top salt 1,260 ft.; top lime 2,350 ft.; top pay 2,680 ft.; shut down 2,880 ft.

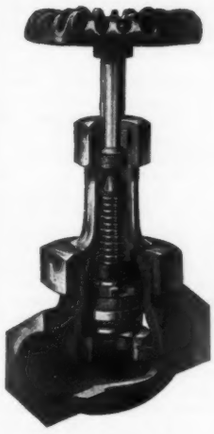
White Eagle O. & R. Co.'s (was Gibson & Johnson's) No. 1 P. A. Lock, 1,320 ft. W of NE cor. Sec. 36, Blk. 74, NW of discovery well, elev. 2,830 ft. — Top lime 3,155 ft.; shut down 3,50 ft., contract depth.

Interchangeability of Parts Provides Economy in Maintenance

and Low Maintenance Cost Insures Low Valve Cost



Iron Body "Ferrenewo"
150 lb. W. S. P.



Bronze "Renewo"
Medium—200 lb. W. S. P.
Extra Heavy—300 lb. W. S. P.

Iron Body
"Ferrenewo" Check Valve
150 lb. W. S. P.

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The "Ferrenewo" for the lower pressures and the "Renewo" for the higher pressures form a combination which provides the maximum degree of satisfactory low cost service.

They are identical in design excepting that the "Ferrenewo" has an iron body and the "Renewo" is made of bronze.

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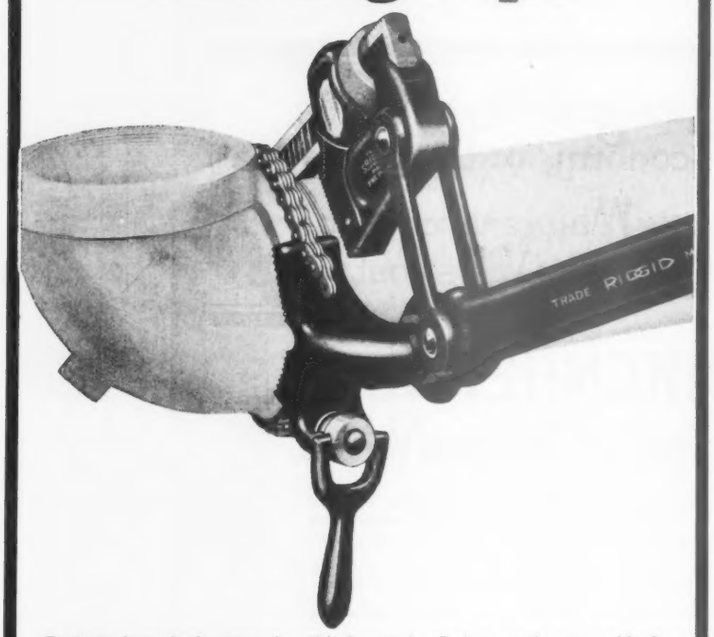
For Big Pipe



Fourteen times the leverage of a 48-inch wrench. Such power is yours with the RIDGID Super-Six.

And yet, the handle is no longer than that of a 36" wrench. Compound Leverage—that's the trick! What a wrench to have in a trench where there's a rusted 6-inch pipe. The Super-Six will break a joint that defies 3 or 4 men equipped with an ordinary wrench.

A counter-balanced action through chain and adjustable toothed trunnion eliminates all strain on pipe line and limits Herculean action to joint being worked on. Joint already tight remains undisturbed.

Absolutely guaranteed to give complete satisfaction. On one good tearing down job alone, the Super-Six will pay for itself.

Get the full facts of this new time and money saver.

Illustrated below, the regular RIDGID wrench that has proved itself a little tougher than the toughest joint. The RIDGID End wrench a glutton for tight corner work in banks of pipes, coils, etc. Both old stand-bys in the Lima Gasolene Plant No. 13, Sinclair Oil & Gas Co., Seminole, Oklahoma.

Throughout the world RIDGID wrenches have won a reputation for tough-job dependability—known as the wrench with the housing you can't break—and that's guaranteed. Easy riding nut in free open housing—hook jaw, unbreakable, unbendable—won't lock on a pipe—powerful I-beam handle.

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NEED CO-OPERATIVE DEVELOPMENT TO MEET FOREIGN COMPETITION

By Earl Oliver

It is always desirable to face facts squarely and the time has come when the American people should take that attitude toward oil. For 60 years oil men have searched the United States for new oil pools. Year by year they have developed new methods of discovery. Within that time the more obvious and least expensive pools have been discovered and largely depleted. Most of the oil now produced within the United States comes from greater depths. It is produced under competitive extraction practices that add to its cost. Notwithstanding that high extraction cost the United States is producing 70 per cent of the world's output and exporting oil to the remote corners of the globe.

On the other hand, a number of other sections of the globe have reserves equally rich as were the original deposits within the United States. Their shallow pools are yet intact. They are held in large blocks. Many of those foreign reserves can produce oil profitably at one-half the average extraction cost within the United States—and certain of them can reach the chief markets served by American oils at one-half the average transportation cost to American oils. Vast foreign reserves of this kind are now defined. They merely await completion of facilities to be thrown into direct competition in large volume with American oils. Each year they will become more and more menacing as competitors. It is on this precarious economic foundation the American oil industry rests.

High Points

The high points of American supply and demand are for the moment as follows:

American demand of crude oil is today roughly somewhat in excess of 2,000,000 bbls. per day.

American supply. There are at the moment three chief sources from which the American demand may be supplied. They are:

First. There are approximately 300,000 wells scattered throughout the United States outside of West Texas. Some are large, some are very small, but they average approximately 6 or 7 bbls. per well. They are the foundation of the American oil industry. They are its most dependable supply. In them vast sums are invested. In the aggregate these 300,000 wells could alone for the moment supply the 2,000,000 bbls. per day that is needed. Some of them are under restricted output. The average extraction cost from these wells (including drilling costs) is somewhere in excess of $1 per barrel. It might be $1.25, or $1.50, but at least there is probably no doubt that it exceeds $1. The average transportation cost to market is probably 75 or 80 cents per barrel. There are adequate facilities already installed to take care of the entire output of these 300,000 wells. As stated, they are the foundation of the American oil industry.

West Texas Supply

Second. The second source of supply as classified herein is West Texas, which by June 1, 1928, will have 1,500 producing wells. Its estimated proven reserve is said to be 750,000,000 bbls., with, of course, other discoveries in prospect. This proven reserve is sufficient to supply the entire American demand for one year. If this reserve is developed in the typical American manner of developing an oil pool it can be made to produce the entire 750,000,000 bbls. in one year. But at the end of the year, it would be a scene of desolation like the Golden Lane of Mexico. Its peculiarities of deposition are such that it can be stimulated to immense daily yields which, however, would be of short duration. Its potential daily yield of June 1, 1928, has been estimated on excellent authority to be 1,600,000 bbls., and by characteristic American competitive drilling methods could easily be stimulated to 2,000,000 bbls. per day—sufficient for the moment to supply the entire American daily demand. But if it is drilled and produced in this characteristically American method its life will be of skyrocket type.

However, the quantity it would produce during that brief period would demoralize its own and the world's markets. While its possible daily yield by June 1 could be 1,600,000 bbls., its transportation outlet as of that time will not exceed a maximum of 400,000 bbls. per day; consequently, the local congestion will be even more demoralizing than the world congestion unless a most efficient type of local control is imposed. The extraction cost in West Texas (including drilling cost) would perhaps average 25 to 40 cents per barrel, the minimum being for Yates Pool. And the transportation cost to competitive markets would be about 80 cents per barrel.

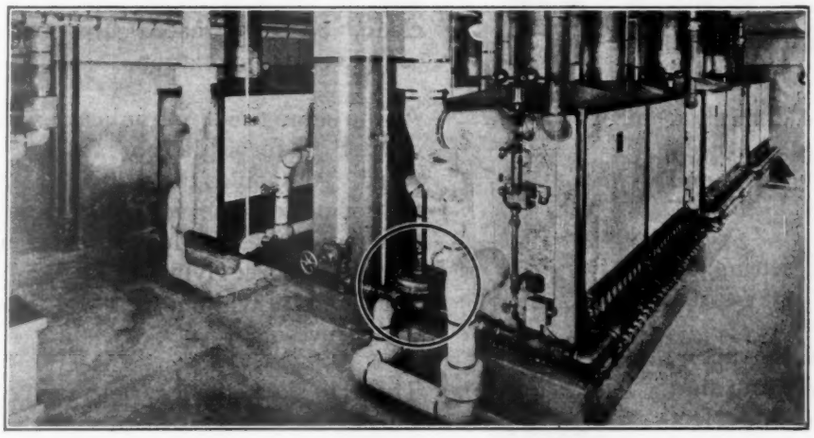
Venezuela Factor

Third. The third great source of supply in this immediate American picture is Venezuela. It has 850 wells averaging about 300 bbls. each, some of which at least are under a relative degree of control. It has much greater proven reserves than has West Texas. Its wells have prospect of much longer life and the region is perhaps capable of daily yield equal to the potential daily yield of West Texas above indicated provided it were drilled and produced under equally characteristically American highly competitive drainage methods. Its cost per barrel to produce is perhaps about that of West Texas, while its transportation cost to competitive markets is only about 40 cents per barrel, or one-half that of West Texas. Its transportation outlet at this time is approximately 250,000 bbls. per day but such transportation outlet is susceptible of rapid increase as compared with that of West Texas. Venezuelan transportation increase is simple. It requiries merely construction of shallow draft vessels to carry the oil out of the lake to deep sea loading points.

Competitive Drainage

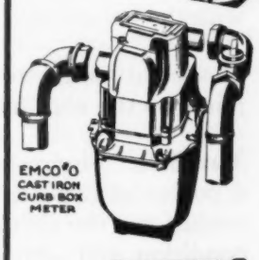
Thus in the American picture we have three great sources of crude, any one of which, if developed according to the American established theory and practice, would alone for a short time produce a sufficient daily oil supply to meet the American demand. The aggregate transportation facilities of these several sources are adequate to maintain a flooded condition and can readily be increased. Consequently, present transportation facilities or any fancied limitation of them are no protection against demoralization in the general picture.

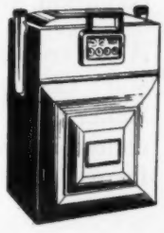
The problem that confronts the American statesman at the moment in his dealing with oil is whether the American public is best served by perpetuation of the typically American practice of competitive drainage. If on that principle these three great sources of crude supply are pitted uncontrolled against each other, we have the following situation: There are three great sources of crude, which, combined, can for a brief period be made to produce three times as much oil as America needs. The first two of them are operated under conditions that automatically bring pressure upon the producer to extract his oil and throw it upon the market regardless of that market demand. Thus at least two of the three sources are forced into ruthless competition with each other in trying to dispose of their oil on a limited market. The relative abilities of these three sources to compete with each other are indicated by comparisons of their extraction and transportation costs. Venezuela, for the purpose of this discussion, may be assumed to have a 25, 40 or 50-cent extraction cost and a 40-cent transportation cost. West Texas will have a similar extraction cost but has an 80-cent transportation cost. The 300,000 American wells outside of West Texas will average in excess of $1 a barrel extraction cost (perhaps considerably in excess of $1) and a 75 to 80-cent transportation cost. Quality, of course, is a factor but not the most important one provided there

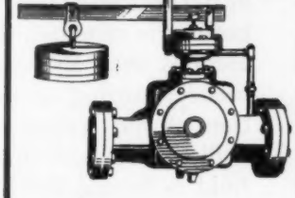


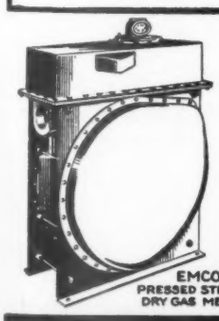
EMCO Regulators on The World's Largest Heating Installation

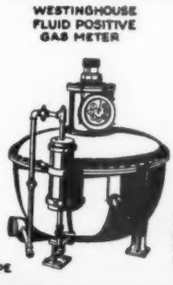
WHEN the largest gas heating plant in the world was installed recently in Boston, Mass., it was equipped with EMCO Water Heater and Gas Appliance Regulators. A large majority of the makers of nationally known heating systems use EMCO Regulators as standard equipment. Progressive manufacturers of gas appliances and equipment realize that the accuracy and reliability of EMCO Pressure Regulators will insure good performance on any type of gas equipment.

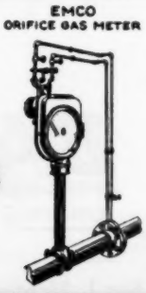


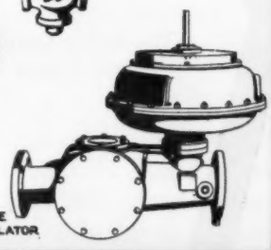












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—a combination that means perfect cores, extracted in perfect shape every time.

The Baker Standard Core Barrel, a go-getter that brings you perfect, uncontaminated cores at any depth—and with the maximum of speed.

A special tongs to use in setting up joints on the core barrel.

The Baker Hydraulic Core Extractor, a powerful two-stage force pump that pushes out the tightest core in perfect condition, and with ease.

Any experienced cable-tool driller can start taking cores at once with the Baker Core Barrel—and be sure of uncontaminated cores from the hardest formations.

When the core barrel is being run in the hole the shoulder on the upper end of the core tube rests on the shoulder at the bottom of the drill barrel. When bottom is reached, the drill barrel telescopes over the core tube and commences cutting on the first falling motion of the string. The valve in the drill barrel head closes at once and the fluid is forced downward through the drilling shoe splines. This keeps the floor of the hole clean, and assures a clean, uncontaminated and unburnt sample of the formation.

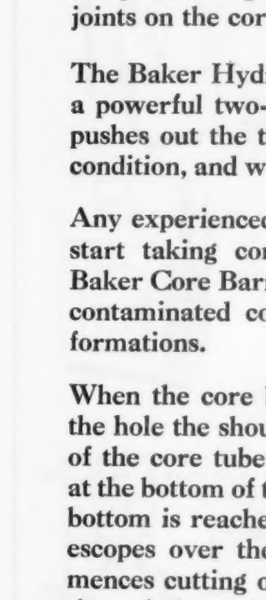
At the same time hydraulic pressure is created to force the core tube downward. As soon as the drill shoe strikes the formation, the water outlet is further constricted, which creates additional pressure, giving the core tube its final impulse without the two heads actually meeting.

The drill shoe cuts a core so nearly the size of the inner core tube that little pressure is needed to force the tube over it.

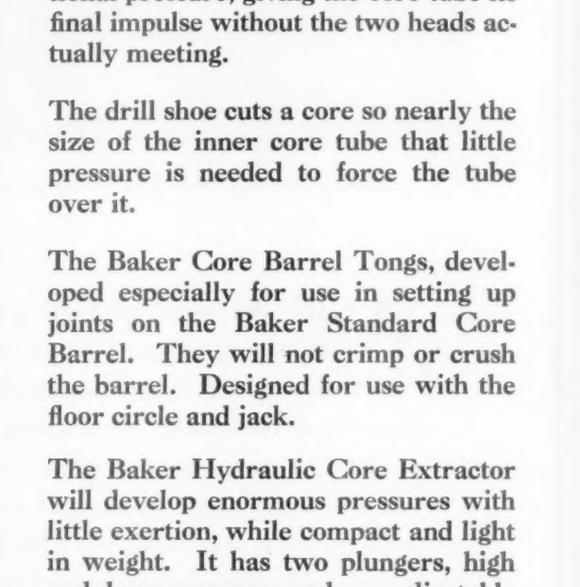
The Baker Core Barrel Tongs, developed especially for use in setting up joints on the Baker Standard Core Barrel. They will not crimp or crush the barrel. Designed for use with the floor circle and jack.

The Baker Hydraulic Core Extractor will develop enormous pressures with little exertion, while compact and light in weight. It has two plungers, high and low pressure, and an adjustable handle. The extractor comes complete with sub and one core pusher plunger. Can be used with any type of core barrel.

The Baker Core Barrel Tongs



The Baker Hydraulic Core Extractor



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is a sufficient supply of any particular quality of oil to adjust facilities suitable to its peculiar needs.

Will Suffer Most

In such uncontrolled competitive struggle between these three sources of crude for American markets it is obvious the 300,000 wells are least able to compete and their owners will suffer most. Then comes West Texas and finally Venezuela suffers least. If this were a temporary flood perhaps the old wells could suspend for a time or worry through. But students of the industry with knowledge of the world reserves now being uncovered do not regard it as temporary. They see ahead danger of an indefinite period of paralization for the great mass of American fields unless something else be substituted for competitive drainage and ruthless competition in order to reduce costs and increase American efficiency.

Increased prices are not the object sought under such substitution, but the desire is to reduce costs. Through this means the American oil producer could more nearly compete with the lower ultimate cost of foreign crude looming ahead and which will otherwise inevitably supplant him in important markets he has long supplied.

This danger has no relation whatever to the too much debated question of ultimate oil exhaustion. It is instead a question of industrial stabilization. Advancement in the successful application of science to the discovery of new pools and the extraction of their products is more rapid than advance in consuming their output. Pools are now brought to a state of development and depletion in months that required an equal number of years 20 years ago. Twenty years ago no science was used. Today the industry is applying the accumulated wisdom of centuries. It is not beyond the range of possibilities that through the application of these appliances and practices being used and developed the industry can in a short period discover enough of that oil yet hidden in the earth to complete swamp it for a time. Such a possibility is not inconsistent with the other thought that, compared with the life of a nation, American domestic supplies may be decidedly limited. The American oil industry has made wonderful progress in the application of science during the past 20 years but has made little progress in the application of law. It has devoted its great energies to finding ways and means to take oil out of the ground. But it most needs to devote some of its great talent toward finding ways and means to keep oil in the ground—until needed. There are few things more dangerous to the stability of petroleum property values than perpetuating competitive drainage. For several years each new field discovered has been regarded as a disaster to the industry instead of the blessing it should have been.

Reduction of Costs

If known methods of co-operation are substituted for the typically American present competitive drainage methods, great reduction of extraction, transportation and marketing costs will be possible to the American oil producer. The American statesman must choose whether the public is best served by ruthless competition that destroys its dependable reserves or by developing a sensible type of co-operation that will permit retention of oil in the ground until needed. Not only does competitive drainage waste the product and increase its cost but it actually promotes rather than defeats monopoly.

Periods occasionally occur in industrial progress when competition is so keen as to defeat its own purpose, public welfare, and that period has certainly arrived in the petroleum industry. Where that occurs not only is the raw material of the industry unduly wasted but as a matter of self-preservation competing units are forced either to combine with or to destroy each other. To survive they combine. This they do in greater and greater units until one unit becomes predominant enough to set the pace and the others are content to follow. It is the survival of the fittest—frequently to be observed throughout economic history. Thus excessive competition leads inevitably to monopoly, and monopoly, in turn, to government supervision and government control. Competitive drainage is the driving force that brings about such floods of oil as to develop excessive competition in all branches of the industry. If that competition is reduced at its source its pressure will be reduced all along the line, maintaining only sufficient to protect the public in price and not so much as to defeat its own purpose.

The problem above described is that of the average American statesman. The Texas statesman, however, has an even more immediate problem. On June 1, West Texas will have an estimated potential daily production of 1,600,000 bbls. It will have a maximum daily transportation outlet of not to exceed 400,000 bbls. Therefore, one of two things is necessary. It must store oil or restrict the output. Cost of storage is equal to the market value of the oil or any market value it is likely to have for some time to come. A storage program to be effective in West Texas would necessitate a building program beyond anything heretofore experienced. Considering the type of oil to be stored, the deterioration of both tank and oil would be prohibitive. Vast capital outlay would be necessary with grave doubt whether the cost of that capital outlay would ever be returned. The stupendousness of the task of correcting the evil in that manner is appalling, in addition to which such a course would inevitably destroy this great natural resource of West Texas as a factor in building up a permanent industrial condition in West Texas. It would mean for the State a program of devastation, not development. Restriction of output, not a storage program, appears to be the only rational solution.

West Texas needs immediate action. A program, however, that will fit in with the new industrial condition above described is not the product of a day, nor is it evolved in a public mass meeting. Any program of change so fundamentally opposed to all the practices of the industry and of the political thought of the American people requires very grave consideration, and careful planning before it is applied. It should be the subject of prolonged and careful study—of combined study by students of government and students of the industry. What is done in West Texas will change American petroleum policy elsewhere. What its statemen do is therefore of much interest to the industry in other states and other fields. However, West Texas will not wait for such deliberate consideration. Perhaps the situation requires that some temporary remedy be applied immediately to take care of the admittedly serious situation arising in Winkler County and at the same time steps be taken to initiate the formulation of a permanent program to be applied when and as developed.

KENTUCKY-TENNESSEE

(Continued from Page 56)

are among the best in the county, although No. 1 W. G. Hayden farm was also in a class with the two Brown farm wells. No. 3, same farm, is nearing the pay sand and work is getting started for No. 4.

Leeper Oil Co.'s No. 8 well, 400 feet from the south line and 200 feet from the east line of the John Roby 90 acres in the Roby Pool southeast of St. Lawrence, and southwest of Pellville, is said to be as good if not better than No. 7 which produced 50 bbls.

Pearl Stevens and others' test on the Nace Mattingley farm, near Knottsville, is reported dry. Conrad and others' No. 3 on the Mattingley heirs' 100 acres, is estimated around 25 bbls. initial production, with Nos. 4 and 5 starting.

The Ohio Oil Co.'s No. 1 on the Louis Ingleheart farm is reported dry in the Jett sand at 1,200 feet deep. Jolly, Howard and others' No. 1, on the Tom Stevens farm, that made such a nice showing until drilled into the water, has been given up as a failure, and No. 1 on the Jeff Leet 68 acres is now drilling an

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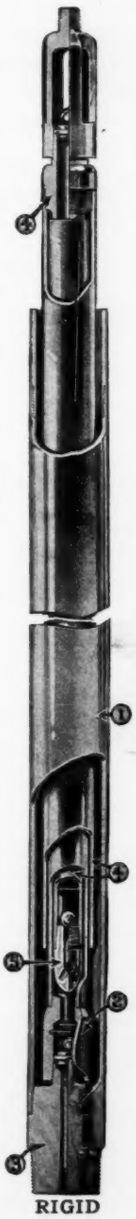

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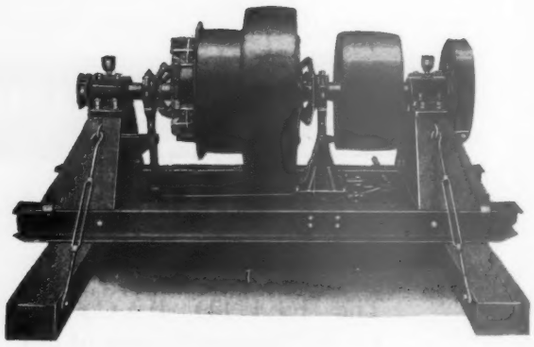

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offset to the big well on the Jim Brown farm.

Cumberland Petroleum Co.'s wildcat on the Dell Salmon farm, in the Hayden Pool, is reported a duster, and this company is drilling No. 1 on the R. H. Neeley farm, close by and in the same pool. Morrison & Roeder have a dry hole on the Elmer Higdon farm, 4 miles northeast of Knottsville, at a depth of 850 feet, which is the Barlow sand.

Jolly, Howard and others moved the drilling outfit from the dry hole or water well to the Wesley Riddle farm, a mile southeast of the Stevens failure and between the Hayden and Brown wells.

Late Reports

Late reports from the Ambrose Pool, in Ohio County, Kentucky, are that the Creek Drilling Co.'s No. 10 on the Bartlett heirs' farm, is showing for a good producer, estimated close around 150 bbls. No. 9, same farm, is delayed on account of a bit lost in the hole.

Petroleum Exploration Co., one of the large operating concerns in the eastern Kentucky fields, has purchased a one-half interest of W. A. Batten, in the J. M. and I. J. Clark lease, near Utica, in Daviess County, and about 2,000 feet due south of the good wells on the Jim Brown farm, in Browns Valley.

The Ohio Oil Co. has reached a depth around 2,000 feet at its test on the Central Land Co.'s property, on what is known as the Baxter lease. This well is drilling on a block of 5,000 acres under lease to Gish and others for whom the Ohio company is drilling. This well is in Muhlenburg County.

The Weideman Oil Co. is starting a second test well on the C. M. Fields farm, in the Hayden Pool, in Daviess County. No. 1 recently completed came in at around 200 bbls. initially.

Advice from Princeton, the county seat of Caldwell County, is that a strong gas well was found at 418 feet, by the Princeton Oil & Gas Co., 4 miles north of Princeton, and a real wildcat, being many miles from any former development work, and west of Christian County, where a good structure is known to exist. The company was drilling for oil but concluded to make use of the gas for heat and light.

Browning & Sons of Ashland, Ky., are starting a wildcat on the Griffith lands in Webster County, between Union and McLean Counties.

Near the Dimmick Brothers' well on the Ratliff farm, the same parties are reported to have what shows for a dry hole on the Len Ford farm, in McLean County.

Smith, Rowe and others are testing out a block of 2,200 acres for oil, by the drilling of a well on the W. H. Smeathers farm, in the eastern part of Daviess County, near the Hancock County line.

The Eastern Gulf Oil Co. and the Wittmer Oil Co. are drilling a test on the William Murray farm, offsetting No. 1 on the Sands lease, a mile northeast of the Hayden wells, in Daviess County.

Tennessee

Things are getting set for an active drilling campaign through Clay County, Tennessee, as soon as weather conditions will permit, and a vast improvement is in the making. H. Z. Clark, one of the discoverers of the field near Celina, and well known in oildom, says: "We are slowly making a nice field here without any noise and I feel that in the immediate future Tennessee will step out with the goods as our deeper drilling is proving up some wonderful 'real sand' beds with small wells so far but in one well we have 85 feet of oil sand without a break at 1,200 to 1,285 feet, and when we get to getting wells in this pay they will hold, we think, equal to Pennsylvania, and will be similar to the Barren County, Kentucky, long life wells. I am staying with Tennessee as I feel it is a comer and will do all I can to bring it to that point with expenditure of money and time."

On Mill Creek, in Clay County, the Ohio Oil Co. deepened its No. 3 on Bill Pennington farm to around 1,300 feet and secured an 18-bbl. initial producer and is now deepening No. 2 on the same lease which at last report was below 1,100 feet. In the same pool, the Cumberland Valley Oil Co.'s Barlow Langford No. 1 drilled in second pay at 600 feet, getting a 10-bbl. producer. In the same area H. Z. Clark and Frank Bovard's No. 2 Tidwell heirs is drilling in and showing for 25 bbls. at 455 feet.

In the Peterman's Bend Pool, same county, the Clark-Hill Oil Corp. is making a deep test out of No. 1 on the Stone heirs lease. This well will be drilled to 1,350 feet, testing all lower sands known. J. S. Aber is down close to sand with No. 1 on the Gates lease, same pool.

In the Fox Springs Pool, the Ava Oil & Gas Co. is drilling a deep test on the Mary Williams farm.

In the Ashburn Creek Pool, the Carnahan Oil Co.'s No. 1 on the Joe Moredock farm is still producing 50 bbls. per day. Same company is near the sand at No. 1 on the Kimes lease. Dr. A. C. Brooks and others, of Robinson, Ill., are getting ready to start drilling operations which will be an offset to the Moredock and Kimes wells of the Carnahan company.

Reeser and Edwards, of Birmingham, Ala., have opened a new field in the Ashburn Creek area by drilling in their No. 1 Sandford Stamps to a total depth of 612 feet, getting a 25-bbl. initial producer. No. 2 is now drilling on the same farm.

Charles Gartland's test on the Blythe lease, in the northern part of Clay County, proved dry.

Ackerman and others struck a heavy gas flow at 500 feet on the Francis Langford land in the vicinity of Celina, in Clay County.

A dry hole has been drilled by unknown parties northeast of Red Boiling Springs, in Macon County, to the west of Clay County.

In the Sinking Creek area of Putnam County, J. A. Drake and others hit a nice gas well. The Tennessee-Alabama Oil & Gas Co. found a dry hole in the western part of this county in the Buffalo Creek area.

Near Belmont, in Coffee County, the Tennessee-Kentucky Oil & Gas Co. found a dry hole at a test on the Dr. C. E. Price property.

Alabama and Mississippi

Word comes from Aberdeen, Miss., that Herman J. Owen, geologist of the Ohio Oil Co., who operates out of Owensboro, Ky., is going over northwestern Alabama and northeastern Mississippi, which is affected by the gas development near Aberdeen. Two gas wells, 15 miles northeast and southeast, respectively, of Aberdeen, have caused considerable interest in further operations and investments on the part of major companies in Monroe County, near Amory, the present headquarters of those coming into the new prospective field. The Ohio Oil Co. has more than 40,000 acres of oil and gas leases in Monroe County, besides extensive leaseholdings in Alabama adjacent to the Amory Field. Along with the Ohio Oil Co., the Henry L. Doherty subsidiary, the Natural Gas & Fuel Corp. of El Dorado, Ark., has a gas well which the company intends to offset. The next large holder of Monroe County acreage is the Gulf Refining Co. The Standard of Louisiana, Magnolia Petroleum Co., Lion Oil & Refining Co., The Texas Company and the Arkansas Fuel Oil Co., are interested in the Doherty well and assisting in the drilling of The Texas Company's well, south of Aberdeen, now reported below 3,100 feet in a dark gray slate formation identified as part of the Mississippian.

Kentucky

Warren and Allen Counties

Oil production in the Bowling Green, Ky., district at the present time says the Times-Journal of Bowling Green, is about 40,000 bbls. a month, according to a statement made by an official of the Illinois Pipe Line Co., which is the common carrier of oil produced in this district to the refineries. Due to low prices, however, the official added that much oil is being held in reserve and not being pumped. "This field could easily produce between 45,000 and 50,000 bbls. a month with maximum effort," he said.

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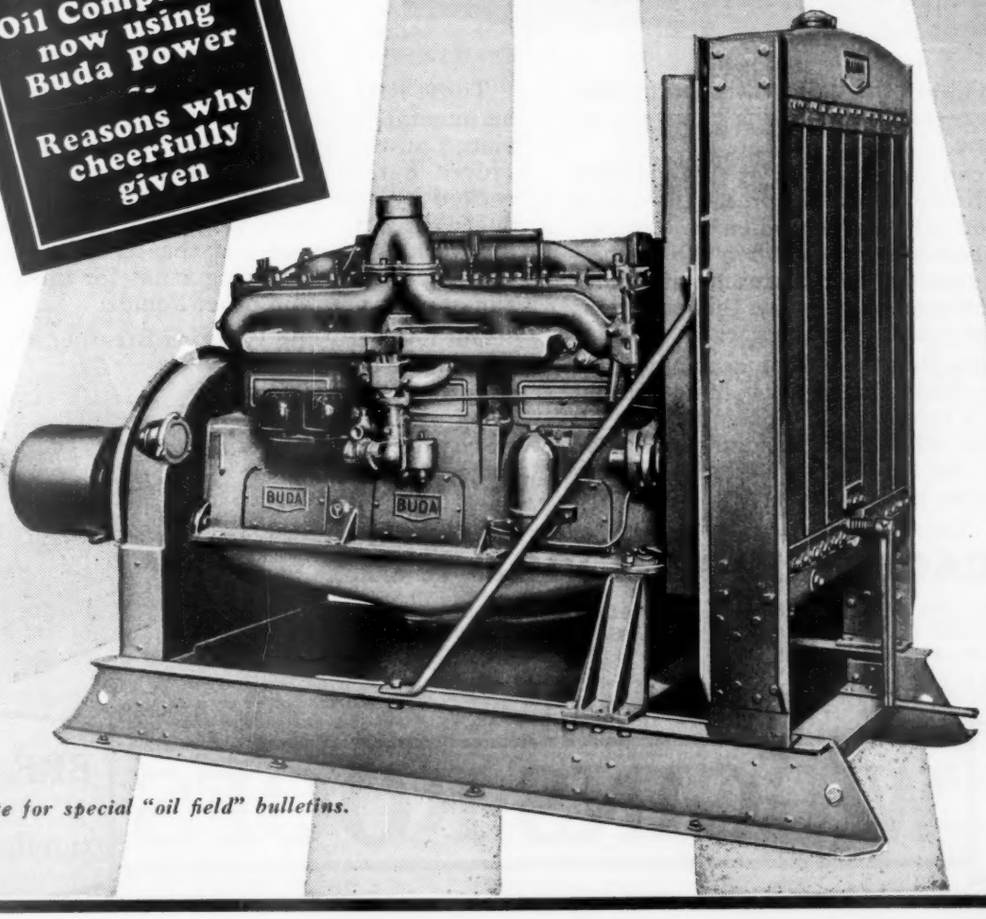

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INDUSTRY WARNED TO BE CAREFUL NOT TO INVITE FEDERAL CONTROL

By C. B. Ames*

The Committee of Nine was appointed at the suggestion of the Secretary of the Interior to consider a legislative program for the conservation of our oil and gas reserves.

The report of the committee may be grouped into four general subdivisions: (a) public and Indian lands; (b) the waste of gas; (c) legislation relative to co-operative development; and (d) legislation permitting restricting of production.

Public and Indian Lands

Under this heading the committe recommends the passage by Congress of the legislation heretofore recommended by the Secretary of the Interior removing the existing mandate upon him to offer for lease annually, regardless of conditions, 100,000 acres of Osage Indian lands. This is in line with the recommendation submitted to the American Petroleum Institute at its last session by its Committee of Lawyers, and it is hard to conceive of any objection to this recommendation.

Under this heading, the committee also recommends legislation by Congress granting the Secretary of the Interior authority to join and to permit lessees from the Government to join in agreements for co-operative development of single pools. This legislation would be harmless, and the only objection to it is that it is unnecessary.

The Waste of Gas

The committee states that the waste of gas has been great, both in the failure to maintain the gas pressure for oil-producing purposes, and in the failure to put the gas to the valuable economic uses of which it is capable, and agrees in general terms that the waste of gas should be forbidden by law. They, however, report that they are unable to determine the form that such legislation should take, and say that ill-advised legislation might do great injury. They very wisely recommend that no legislation be passed until the matter has received further consideration.

Co-operative Development

After taking the position that there is at present little or no actual waste of oil, that our present scheme of fee simple title should not be disturbed, but that some plan should be devised for avoiding excessive drilling costs, the report discusses co-operative development.

The great majority of those in the industry will, of course, agree with the committee that it is entirely impracticable to accomplish co-operative development by the coercive power of the state, and doubtless most lawyers will agree that in addition, such an attempt by the state would be in violation of the constitutional right of private ownership and control of one's property.

I think it is equally clear that the statement of the committee that "It seems clear to us that any agreement for the co-operative development and operation of a single pool even though it involve the control or curtailment of production from that pool, is not a contract or agreement in violation of any anti-trust law, either state or federal," states a clear principle of law, and that there is no legal obstacle in the way of an agreement for the co-operative development and operation of a single pool.

The committee, however, while expressly stating that in their judgment it is clear that no legislation is necessary to permit agreements for the co-operative development and operation of single pools, nevertheless recommend such legislation by both Congress and the state legislatures, and they make this recommendation because there are some timid souls who fear that such agreements would violate the law. In other words, the committee proposes that the administration, the American Petroleum Institute and the American Bar Association all go to Congress with a statement that it is clearly unnecessary to pass this legislation, and yet, because there are some timid souls who disagree with us, we ask you, the greatest law-making body in America, to do a wholly unnecessary thing in order to satisfy these timid souls.

Agreeing as I heartily do with the committee's statement that such legislation is clearly unnecessary, I cannot refrain from disagreeing as to the propriety of requesting either the Congress or the state legislatures to pass it.

Nature of Co-operation

By the term "co-operative development and operation," the committee means, as shown by its definition in the appendix, "any agreed plan for the development and operation of a pool as above defined, in such manner as to avoid wasteful methods of development and production, and cause as efficient and complete recovery as practicable." It does not seem to me possible that any court in any state would hold an agreement to accomplish these objects as a violation of law. Avoiding waste or producing efficiency and accomplishing a complete recovery of the oil is not in restraint of trade, but in promotion of it, and any agreement having for its purpose the accomplishment of these ends should be, and doubtless will be, approved by every court in the land.

The difficulties in the way of co-operative development and operation are not to be found in the antitrust laws, but in the conflicting interests of lessors, royalty owners, lessees, and the contractual obligations embodied in the leases. If these practical difficulties can be overcome, there is no need for legislation, and those who favor the unit method of operating a pool can safely devote their energies to harmonizing these conflicting interests instead of wasting time and energy in securing Congressional legislation on a subject relative to which Congress has no power under our Constitution.

Restricting Production

Passing from the unit pool subject, the committee discusses agreements to restrict production.

In so far as its recommendation affects state legislation, I am in accord with the recommendations of the committee, although, in at least some of the oil producing states, no such legislation seems to be necessary. For example, in Oklahoma, the agreements between the operators in the Seminole district have been in effect for several months. These agreements have been made with the approval of the Corporation Commission of that State, and it is certain that they do not violate the antitrust laws of Oklahoma. Similar agreements are now in effect in California with the approval of the public officers of that State. There can, however, be no objection to legislation by the oil producing states embodying the carefully thought-out recommendations of the committee. Whether, however, the oil industry should ask Congress for similar legislation is an entirely different question. If Congress has any power over the subject at all, it grows out of the commerce clause. It is, of course, well settled that Congress has no power to enact such legislation under the Common Defense or General Welfare clauses of the Constitution. The decisions on this point are so clear that it cannot be doubted. It is also settled by frequent decisions of the Supreme Court that production and mining are not commerce, and therefore Congress has no power to regulate mining. An agreement by producers relative to the mining of oil is, therefore, not an agreement relating to interstate commerce, and Congress has no power over the subject.

If the legislation proposed by the committee is necessary, then the Seminole agreements and the California agreements are in violation of the Federal antitrust laws, and all the producers who conspired with each other and with the public officers of those states to make these agree-

*In The Texaco Star.

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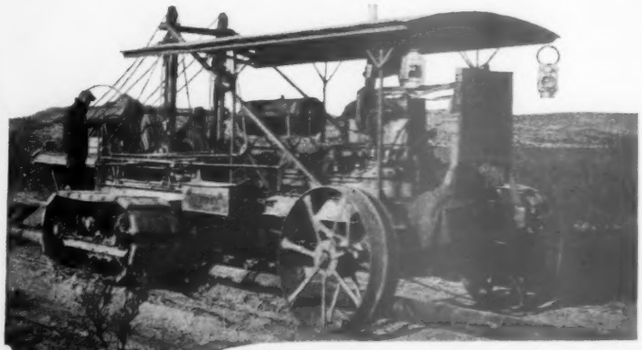

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ments have violated the Sherman Act.

For my part, I have no doubt whatever on the subject, and am entirely convinced that the Seminole agreements restricting production do not violate any Federal legislation.

Care in Federal Action

The industry should deliberate very carefully before accepting the recommendations of the committee relative to Federal legislation. A request that Congress pass a law creating a Federal Oil Conservation Board; giving it power to consider the existence of an emergency; giving it power to declare the termination of an emergency; giving it power to disapprove agreements that the industry may make; and giving it power to prescribe rules and regulations governing these subjects, is a long step in the direction of Federal control of the petroleum industry. The petroleum industry is not the favorite of Congress. It has been subject to frequent and unjust attacks by that body, and Federal bureaus set up at Washington have never been known to relinquish their power. The tendency, on the other hand, is always to expand it.

The present situation is an illustration of this tendency. So far as I know, there is at present no law creating a Federal Oil Conservative Board. This board is a purely extra-legal body. It exists by sufferance and is the result of a letter written by the President to the Secretary of the Interior a year or two ago. Last August the Secretary of the Interior, having participated in the organization of this Extra-legal Board suggested to the American Bar Association the creation of this Committee of Nine for the purpose of studying necessary legislation relating to the industry. Now the Committee of Nine reports to this Extra-legal Board a recommendation that an act of Congress be passed, giving legal existence to this conservation board, giving it the power to declare the existence of an emergency, to approve or disapprove agreements relating to production in any State of the United States, and to make all necessary rules and regulations appertaining to the subject.

Far-Reaching Powers

If this legislation is enacted, we will then have set up in Washington a new bureau with far reaching powers over the production of petroleum, a subject which, as I verily believe, is entirely beyond the power of Congress. The gentlemen who would at this time compose the Federal Oil Conservation Board are men in whom the industry of the country has great confidence, but they are all cabinet officers and are subject to change according to the exigencies of American politics, and it is impossible to forecast the personnel of this board even for one more year.

The petroleum industry may, at this particular time, commit a grievous mistake. It should hesitate a long time and consider the future most carefully before it deliberately invites Congress to place the control of production in the hands of a Federal Bureau in Washington. It is quite a distance from California, or Texas, or Oklahoma to Washington. These are the three greatest oil producing states and the industry is well understood in those states. Whether it would be as well understood by a bureau in the distant city of Washington is a question that the industry should ponder very seriously before it supports the recommendation of the Committee of Nine.

There are many people in the United States who, whenever anything goes wrong, at once hasten to the legis'ative body with the cry "Let's pass a law." Is the petroleum industry ready to join this cry?

MICHIGAN FIELDS

(Continued from Page 54)

drilling in of the Reed-Shoup well Monday. A show of gas and oil was found at 1,672 feet, when drilling operations were suspended. With a surface elevation slightly higher than in the discovery well, this well has been running considerably lower in formations, indicating a drop to the north and northwest as well as to the northeast as shown by the two most recent dry holes and the small showing in the Becker well.

Oil in the Hole

Drillers were awaiting the arrival of Dixie Oil Co. officials from Shreveport, La., before the drill in of No. 1 Reeths the latter part of this week. This well is directly below the discovery well and but a few hundred feet west of the Lima gas well. There is considerable oil in the hole now from shows at 600 feet and in the Berea at 1,520 feet.

The three other wells which are nearing the top of the Traverse sands are: Johnson Oil Refining Co.'s No. 1 Harley Smith, about a quarter of a mile directly north of the producers. A showing of oil was found in this well in the Berea sand at 1,200 feet. The West Michigan Oil Syndicate's No. 1 Marquard, in the SW of the SE of Section 7, Muskegon Township; and the A. S. Cochran No. 1 Taggart, within 300 feet west of the Johnson-Smith well. These two wells are in the SE of the SE of Section 5, Muskegon Township.

All indications now point to a falling off in the structures to the northeast, to the north, to the northwest and to the west of the two producers. This has narrowed the field considerably and points to the development of the largest wells on the Muskegon River flats, where the Lima-Figge well is now holding back a flow of nearly 5,000,000 feet of gas per day.

Formations in the Lima well and the two adjacent wells of the Dixie Oil Co., a subsidiary of the Standard Oil Co. of Indiana, have been as high or higher than the two producers overlooking them from the brow of the river bank, 40 to 45 feet higher than they are in surface elevation.

More Rigs Building

Two more rigs are building on the flats, one for the Reed Oil Co. and the other for the Muskegon Oil Corp. Both are on property owned by the Torrent estate and administered by the Bankers Trust Co. of Muskegon.

The Reed Oil Co.'s rig has been erected in the NE of the NW of Section 17, Muskegon township. The Muskegon Oil Corp. began this week to move a rig to the SW of the SE of Section 8, Muskegon Township. F. M. Gray, Jr., Inc., of Chicago and Milwaukee, is contractor on the latter hole. J. B. Reed owns the rig which will drill on the other Torrent property.

In consequence of this development of the field pointing toward larger and better wells on the river flats, Frank L. Maire, president of the Lima Oil Corp., this week took an option on about 1,000 acres of property owned on the flats by Louis P. Haight of Boston, former Muskegon manufacturer.

New leases on more than 1,500 acres in Egelston, Ravenna and Sullivan Townships also were filed recently by the Muskegon Oil Corp. These are in addition to about 2,000 acres in the last two mentioned townships previously filed by the local corporation.

E. A. Durham of Sistersville, W. Va., recently filed a number of leases on property in the county. That the greatest leasing activities are now going on in Oceana, Newaygo, Manistee, Mason, Ottawa and Kent Counties, which adjoin Muskegon County in western Michigan, has been indicated by reports received here.

J. J. Fagan & Co. of Muskegon recently has taken leases on about 3,000 acres of property in the vicinity of Arcadia, Manistee County. The North Ottawa Oil Co., which included B. P. Sherwood, Grand Haven banker, William H. Connelly, former state senator, of Spring Lake, and other business men of Ottawa County, have obtained leases on about 8,000 acres north of the Grand River in the neighborhood of Spring Lake, Nunica and Robinson. When they have obtained 10,000 acres they plan to drill one or more test holes.

An offer of $750 for a three-year lease on the grounds of the Muskegon County tuberculosis sanitorium, within 1 mile of the producing wells in the SW of the NW

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$1,000,000 Pier Improvement authorized, including new pier 120x1,180 feet; new 1,000 foot electrically operated grain conveyor and new concrete warehouse facilities.

$500,000 Improvement Program by Texas-Gulf Power Company now in progress.

$150,000 new School Building now under construction.

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6,000,000-barrel oil storage capacity.

$5,000,000 Shipside Sugar Refinery.

5,500,000 pounds capacity raw sugar bin; 175,000-bag refined sugar warehouse; 1,250,000 pounds daily sugar refining capacity; 40,000-bag raw sugar warehouse.

500,000-bushel grain elevator.

215,000 feet spur trackage serving wharfage and industries.

Tracked dock aprons; oil loading and discharging piers with tank farm connections; high density cotton press; Monorail conveyor systems; shipside warehouses, elevators and trackage.

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The Tanker Tamiuahia departed from Texas City on Sunday, March 4th, with 130,600 barrels of crude oil, *drawing 31.3 feet at zero tide!*

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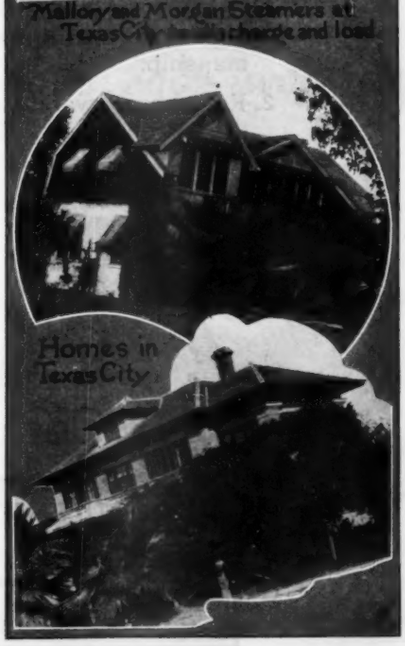

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of Section 8, was rejected by the oil committee of the county board of supervisors last week on the grounds that the offer did not include a guarantee to drill within 30 days. The offer was made by H. R. Clapp of Marion, Ill.

Limit City Drilling

Drilling within the city limits of Muskegon has been made very difficult during the past week by a ruling which provides that no wells may be drilled except on industrial or commercial property unless the zone is changed by the regular procedure under the city zoning ordinance.

George D. McCullum, local plumber, who uncovered an old well drilled here for salt 35 years ago in what is now the heart of the business district of the city, was ordered last week to take out a permit to clean out and pump the old well for oil. In order to get a permit he must apply to the city building inspector, who in turn must refer the permit to the board of appeals. It then goes to the city commission for individual consideration. It is hoped by this means of procedure to make certain that no wells will be drilled within the city limits of Muskegon except after the most serious consideration.

It is not believed now that the field will carry drillers to the city limits unless future developments differ from present indications.

Summary of Work

The 12 drilling wells and their locations are: Muskegon Oil Corp.'s No. 1 Herman Heinz in the NE of the NE of Section 8; Dixie Oil Co.'s No. 1 Reeths in the SW of the NW of Section 9; Dixie Oil Co.'s No. 1 Figge in the SW of the NW of Section 9; Citizens Petroleum Co.'s No. 1 Becker Brothers in the NE of the SW of Section 4; Muskegon Development Co.'s No. 1 Hartman in the NE of the NW of Section 9; Lake Shore Petroleum Co.'s No. 1 Dow in the SW of the SE of Section 5; the Joliet-Morris' No. 1 Nichols in the NE of the NW of Section 8; Johnson Oil Refining Co.'s No. 1 Harley Smith in the SE of the SE of Section 5; West Michigan Oil Syndicate's No. 1 Marquard in the SW of the SE of Section 7, within the city limits of North Muskegon; J. B. Reed's No. 1 Shoup in the NW of the NW of Section 8; A. S. Cochran's No. 1 Taggart in the SE of the SE of Section 5; and Bulldog Oil & Gas Co.'s No. 1 Giles in the SE of the SE of Section 6.

Rigs are building on five wells as follows: Reed Oil Co.'s No. 1 Torrent in the NE of the NW of Section 17; W. P. Bradley's No. 1 Hower in the SE of the SE of Section 5; Charles P. Brandt's No. 1 Host in the SE of the SE of Section 5; Muskegon Development Co.'s No. 1 A. Heinz in the NE of the NE of Section 8; and Muskegon Oil Corp.'s No. 1 Torrent in the SW of the SE of Section 8.

Four of the companies now operating in the field are associated with the Muskegon Oil Corp. They are: Muskegon Development Co., Citizens Petroleum Co., Lake Shore Petroleum Co., and the Joliet-Morris Development Co. One other subsidiary is to be organized within a short time for drilling on the 50,000 acres held under lease to the Muskegon Oil Corp., pioneer in the local field.

EASTERN FIELDS

(Continued from Page 54)

mer County, the Valley Gas Co. has completed in the Big Injun sand No. 4 on the Albert Bailey farm. It is a gasser. On the Little Kanawha River, same district, S. G. Roberts & Co. have completed a test on the Viola Beall farm. It is a gasser in the Big Injun sand, 3,000 feet north of No. 3 on the Albert S. Beall farm.

Ritchie County

In Murphy district, Ritchie County, J. F. Deem and others have completed a test on the William Baker farm. It is a gasser in the Big Injun sand. In the same district, the Hope Natural Gas Co.'s test on the W. W. Lawrence farm is dry and abandoned.

Gilmer County

In Troy district, Gilmer County, the Carnegie Natural Gas Co.'s test on the Charles Depard is dry in the Squaw sand and has been abandoned. In DeKalb district, the Hope Natural Gas Co. has a duster in all sands at a test on the W. M. Otto farm.

Dusters in Braxton County

In Otter district, Braxton County, the United Gas Co. has a duster in all sands at a test on the D. S. and C. Engle farm. In the same district, the same company has a duster at a test on the C. F. Engle farm.

In Lee district, Calhoun County, Kingsbury & Dollman have a duster in the Big Injun sand. In Cove district, Doddridge County, the Hope Natural Gas Co. has drilled deeper its test on the Thurman Spurgeon farm. It is a gasser in the Big Injun sand. The Federal Oil & Gas Co. has a very light pumper in the salt sand at a test on the Cooper Brothers farm. In Lee district, F. F. McIntosh is drilling a test on the B. F. Sturm farm. In Washington district, Jackson County, the Ravenwood company drilled a test on the L. D. Parsons farm to a depth of 2,755 feet. It has been abandoned.

In Duval district, Lincoln County, the United Fuel Gas Co.'s No. 3 on the Horse Creek Land & Coal Co.'s property is a gasser good for 700,000 feet. In Washington district, the Harvard Gas Co. had to skid the rig at its test and started a new hole at a test on the Standard Fuel Co.'s property.

In the Hurst district, Lewis County, the Hope Construction & Refining Co. has drilled down from the Gordon to the fifth sand its second test on the Ira P. Simmons farm. It is a very light pumper in the lower formation.

On Polecat Run, Elk district, Kanawha County, 1,200 feet northwest of the South Penn Oil Co.'s No. 12 on the Bannester heirs farm, the same company has completed the rig at No. 16 and will clean out and try to reclaim it. The well was abandoned several years ago.

Starting Tests

In Clay district, Ritchie County, the Aetna Oil & Gas Co. has started to drill on the L. A. Bumgardner farm. In Hackers Creek district, Lewis County, the Anglin Oil & Gas Co. is drilling on the E. M. Fleming farm. In the same district, the Jane Lew Gas Co. is drilling at 1,900 feet on the S. R. Propet farm. The United Carbon Co. is rigging up on the J. R. Keene farm, in Geary district, Roane County. In the same district, Richard Elkins & Co. are rigging up on the Jane M. Keene farm. In Spencer district, F. F. McIntosh has rig timbers and tools at a location on the M. J. Bowers farm. In the same district, Godfrey L. Cabot has shut down on account of casing trouble on the G. C. Goff farm.

In Sheridan district, Calhoun County, Bart Crowley has part of the rig material at a location on the Jane Brymer farm. In Center district, Gilmer County, the Chartiers Oil Co. is rigging up on the Baptist Missionary farm. Blaine Engle is skidding the rig on the Morris Davis heirs' farm, DeKalb district, Gilmer County. In Center district, Calhoun County, W. H. Bickel has started to drill on the Morris Marshall farm. In Walker district, Wood County, L. P. Pickett & Son are drilling a test on the J. H. Ewing farm.

At the mouth of old Fork Branch, of Jenning Creek, Lincoln district, Wayne County, the Public Gas Corp. is starting another test on the Thomas Caldwell farm. Three-fourth of a mile west of the gas well on the Caldwell farm, on Turkey Creek, Harvey district, Mingo County, the same company is drilling No. 22 on the Henry Vlosterman estate.

In Geary district, Roane County, the United Fuel Gas Co. is rigging up at a second test on the J. Q. Dickinson farm and building a rig on the H. R. Stump farm and has started to drill on the I. C. Stump farm. In the same district, the Heck Oil Co. has made a location on the B. A. Shaffer farm. In Coal district, Harris County, the Camden Oil & Gas Co. is drilling on the Pride heirs' farm.

Southwest Pennsylvania

The Manufacturers Light & Heat Co.'s test on the C. W. Nuss farm, in Morris Township, Greene County, is now estimated to be good for 25 bbls. a day from

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STEADY, smooth action and the extremely sensitive operation of the Davis "Supersensitive" Relief Valve have brought a very wide acceptance among progressive operating engineers.

They find that the "Supersensitive" Relief on recovery systems gives accurate, dependable control, with an action sensitive enough to give the highest efficiency. This valve will operate on a fraction of an inch on a water gauge. Its action is governed entirely by the inlet pressure.

Every detail of this Valve is designed for simple and reliable action under all the usual operating conditions met in vapor recovery work. It is completely protected, yet easily accessible for adjustment or attention when necessary.

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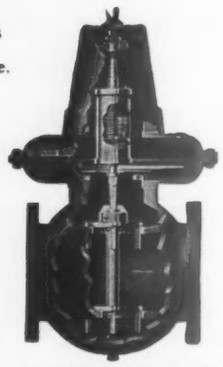

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O&GJ 3-29-Gray

the 30-foot sand. It was drilled a little deeper. In the same township, the Carnegie Natural Gas Co. has a gasser in the Big Injun sand at a test on the Allen A. Iams farm. The Consumers Fuel Co.'s No. 3 on the James Rutan farm is still holding up at 175 bbls. a day, since shot.

Outside of Greene County all of the southwest Pennsylvania work is widely scattered. In Cecil Township, Washingotn County, Paul Clay and others are due in the sand at a test on the Albert Vincent farm. In Ross Township, Allegheny County, the Ward Oil Co. is drilling a test on the Kuhn farm. In Pine Township, Smith & Co. are drilling a second test on the Bloom farm. In the Warrendale district, Scott & Co. have a 7-bbl. pumper on the Fry farm. In the Wexford district, Beeler & McEvoy are drilling a test on the Steigerwald farm. In Moon Township, George Herrly & Co. are drilling a test on the Steinmetz farm. At the present time Beaver County has no new work. In Wayne Township, Greene County, Myers & Long have a gasser in the 30-foot sand at a test on the Yeager heirs' farm. In the same township, the Peoples Gas Co. is due in the sand at a test on the R. A. Pethel farm.

INDUSTRIAL GAS CO. FILES BOND FOR LINE

(Continued from Page 58)

nine at various points up and down the main line, one on the distribution system in Kansas City and one on branches from the main line to other towns.

The main line from the field in the Texas Panhandle to Wichita will be 24 inches in diameter, he said, and from there to Kansas City, 22 inches. The franchise requires the main line must not be less than 20 inches.

A clause in the grant prevents the Industrial company from disposing of its franchise, except by mortgage, without the consent of the city council. That makes it impossible for the company to sell out to other interests.

The grant also requires that in the event of a gas shortage in future years the supply is to be prorated equally between domestic and industrial users.

The following monthly schedule of rates is set forth in the franchise:

First 2,000,000 cubic feet, 33 cents.
Next 3,000,000 cubic feet, 28 cents.
Next 10,000,000 cubic feet, 24 cents.
Next 20,000,000 cubic feet, 21 cents.
Next 30,000,000 cubic feet, 20 cents.
Next 115,000,000 cubic feet, 18 cents.
Next 90,000,000 cubic feet, 17 cents.
Next 90,000,000 cubic feet, 16 cents.
Any over 360,000,000, 15 cents.

Legal Battle Looms

A legal battle to prevent the Industrial Gas Co. from entering Kansas City and other fields now served exclusively by the Doherty interests, was forecast by B. C. Adams, vice president and general manager of the Gas Service Co., the parent company of Doherty distributors in Greater Kansas City and the Southwest.

"We will resist the Industrial Gas Co.'s application for writs of convenience and necessity, when filed in Missouri and Kansas," Mr. Adams said. "We have millions invested, and are going to protect our interests in every proper legal way."

John L. Knorpp, president of the Industrial Gas Co., said application for the writs of convenience would be filed at Jefferson City and Topeka just as soon as all details of financing had been completed. He said resistance by the Doherty interests had been anticipated. Filing of more than 200 contracts of users wanting his company's gas, he said, would be ample proof of the necessity for its permit in this field.

Larutan in Merger

Gas producers in the Blackwell, Okla., district figure in the proposed merger of the Larutan Gas Co. and the newly organized Kansas City Texas Gas Co., which is backed by John Knorpp of Los Angeles. Larutan is owned by Blackwell and Wichita operators and is serving cities in Oklahoma and Kansas.

If the 490-mile gas line from Amarillo to Kansas City is laid it will cost $35,000,000 and will pass in a northeasterly direction between Hutchison and Wichita, Kans. It will cross the Larutan company's line 8 miles east of Hutchinson. The Larutan line serves Blackwell with a 10-inch main.

Conference at Austin

AUSTIN, Tex., Mar. 24.—Officials of the Empire Gas Co. were in Austin conferring with State officials, but on what subject has not been made public. The Empire is part of the Doherty system.

Among those here were: Edwin B. Phillips, Fort Worth, general attorney in Texas; Hayes McCoy, Bartlesville, Okla., assistant general attorney, and Carl J. Wright of the Combustion Utilities Corp. of New York, the research part of the Doherty interests.

The Empire company has completed its gas line from the Amarillo fields to Kansas City, and has about 200 miles still to lay from the Panhandle fields to Denver, Colo.

ROCKY MOUNTAIN PROJECTS UNDER WAY

(Continued from Page 58)

ciates, of San Antonio, Tex. These interests have organized the Pecos Valley Gas Co., with Joe Burkett, secretary and general manager. Surveys have been completed and shipment of pipe has commenced.

La Barge Line

It is stated that the deal being consummated whereby the Texas Corp. will acquire the California Petroleum Corp. will not make any change in the plans of the Midwest Refining Co. interests for building a 45-mile pipe line from the La Barge Field, in southwestern Wyoming to Opal, on the Oregon Short Line Railroad in Lincoln County. Preliminary work on the line has been started. It will be constructed of 6-inch pipe instead of 4-inch as reported. Change to larger size was decided upon for the reason that it will be less likely to become clogged with paraffin in cold weather. The Midwest interests agreed to build the line and in turn the California Petroleum Corp. agreed to sell its production to the Midwest. The oil will go to the Utah Oil Refining Co. at Salt Lake City.

Baxter Basin Project

While no official statement has been made to that effect, it is understood that the projected line from the Baxter Basin Field in Wyoming, the Hiawatha Dome in Colorado, the Clay Basin structure in Utah, and several other gas pools in Colorado and Utah, to Salt Lake City, will not be built, at least this summer. It appears that some hitch has taken place in the plans. The Hope Engineering & Supply Co. had options to purchase gas from the Ohio Oil Co., Producers & Refiners Corp., the Somir Petroleum Co., and others, based on its ability to find a market. The Texas Production Co. had made a verbal understanding that its gas on the Rangely Dome in Colorado could go into the lineup, and gas from the Ashley Creek Dome in Utah, also was available. A few weeks ago surveyors were reported working out a route through the Uinta Basin, in Utah, approximately close to the line of the projected Denver & Salt Lake Railroad extension to Salt Lake City. This was somewhat of a surprise as it was considered probable the line would go westward from Baxter Basin, in Wyoming. The southern route would put it into closer contact with the Colorado and Utah gas fields. It is understood some of the Baxter Basin options expired recently and that one of the major companies declined to extend it. The reasons for the hitch in the plans has not been disclosed, but it is considered probable that difficulties in the way of selling the gas for domestic consumption in Utah cities stood in the way. Tentative contracts had been made with a number of industries. Inability to get the line under way by this time made it unlikely that it could be finished this year, and it is probable that negotiations may be renewed at some future date.

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JEFFERSON Unions are made of air-refined malleable iron, with seat rings of the best grade of brass —materials of the highest quality and the utmost suitability. JEFFERSON ground-ball, brass-to-iron joints are ground in pairs to perfect fit and kept in pairs until assembly, assuring tightness with no need for gaskets. Liberal play is provided between nut and swivel end to promote ease of application. Nut threads are heavily graphite coated to prevent corrosion of these parts.

Furnished in sizes from ⅛ inch to 12 inches, and in styles for every purpose. Look for the name "JEFFERSON" on the nut.

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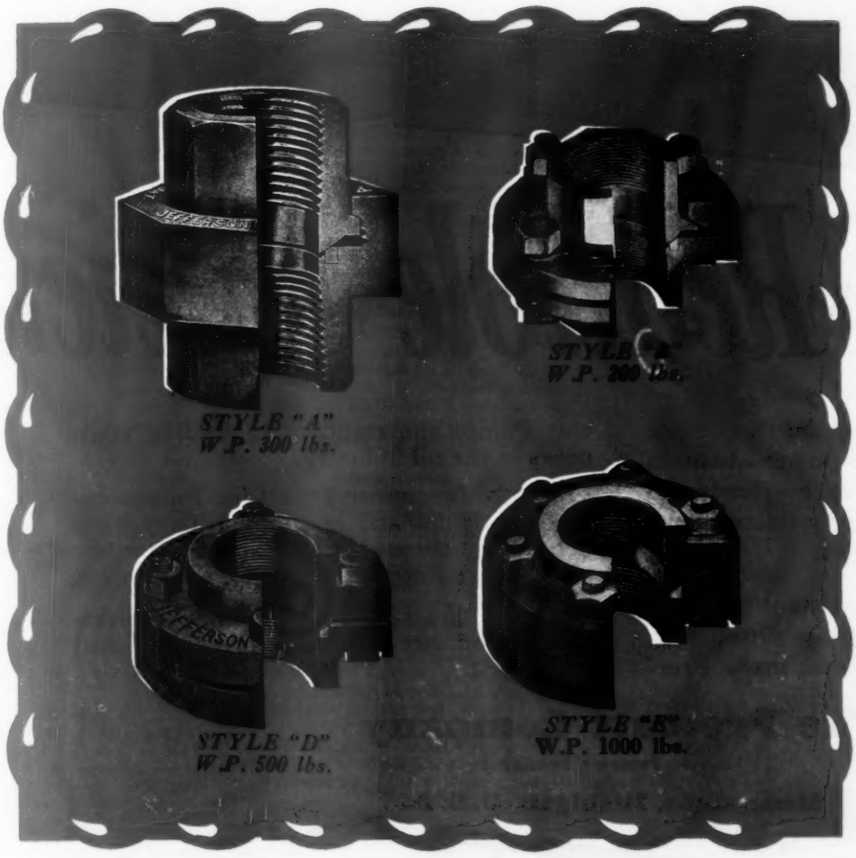

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The Prescott Company

Fred. M. Prescott, President

Menominee, Michigan, U. S. A.

Pumps for deep mines ~ Pumps for pipe lines

NORTH LA.-ARK.

(Continued from Page 45)

W. Peyton, 1,320 feet west and 660 feet south NE cor. SE, Section 25-23-12. Magnolia Petroleum Co. tested 2,000,000 feet of gas at 3,078 feet in No. 1 Cason, Section 1-22-12, but will go deeper; No. 1 Matlock, Section 25-23-12, cemented 10¾-inch casing at 802 feet. Natural Gas Products Co.'s No. 1 Floyd, Section 25-23-12, is coring at 3,068 feet. Northwest Louisiana Gas Co. began drilling No. 1 Barnett, Section 25-23-12, March 19. The Texas Company has rig up for No 1 Rose, Section 31-23-11.

Elm Grove and Sligo—Arkansas Natural Gas Co. has rig up for No. 1 Van Hoose, Section 36-16-12. H. S. Goodwin's No. 1 Mercer, Section 21-16-12, is shut down at 1,950 feet after a salt water show on drill stem test. Palmer Corp. has 6-inch casing cemented at 1,884 feet in No. 9-B Hodges, Section 25-16-12.

Caddo Parish

Greenwood—Belchic & Laskey cemented 6-inch casing at 1,749 feet in No. 4 R. T. Sharp. Greenwood Production Co. has derrick up for No. 1 Cushman & Bridges, 2,014 feet west and 1,988 feet north SE cor. Section 15-18-16, and Gross and others have derrick up for No. 1 Baker, 500 feet south and 150 feet east NE cor NE, Section 35-17-16. Magnolia Petroleum Co. cored gumbo at 2,271 feet in No. 2 Bell, Section 4-17-16; No. 2 J. W. Furrh, Section 28-18-16, began drilling March 16 and has 13⅜-inch casing set at 204 feet.

Pine Island—Dixie Oil Co.'s No. 81 Dillon, Section 13-21-15, is shut down in shale at 4,148 feet; No. 92 Dillon, in the same section, is drilling hard lime at 4,185 feet; No. 90 Dillon, Section 14-21-15, tested salt water at 4,056 feet and is plugging back to 3,036 feet; No. 91, same lease and section, is drilling at 2,353 feet and No. 4 H. H. Huckaby, Section 11-21-15 ,is shut down at 4,037 feet. Magnolia Petroleum Co.'s No. 8-A Hampton, Section 15-21-15, was bailing salt water at 4,022 feet and No. 22 Robertshaw, Section 23-21-15, was producing the same results at 3,925 feet. Simms Oil Co. has derrick up for No. 1 Glassell 330 feet south and east NE cor. SW NW, Section 23-20-15.

Monroe District

Morehouse Parish—United Carbon Co. began drilling No. 1 J. Davis, Section 21-20-4, March 18.

Ouachita Parish — Amalgamated Co.'s No. 1 Cole, Section 7-19-4, has 6-inch casing cemented at 2-125 feet. Hatcher & Evans cemented 8-inch pipe at 840 feet on No. 7 Fee, Section 21-19-4. Imperial Oil & Gas Products Co. is drilling No. 5 Stubbs, Section 13-19-3, at 2-124 feet. Jordan Drilling Co.'s No. 1 Pereboom, Section 32-19-4, set 12½-inch surface string at 175 feet and is drilling at 800 feet. Ouachita Natural Gas Co. cemented 6-inch at 2,084 feet on No. 9 Smith, Section 29-20-4. Palmer Corp.'s No. 3 Kate Cole, Section 38-20-4, is drilling at 1,890 feet.

Union Parish—Industrial Gas Co. has begun drilling No. 1 Lewis, Section 14-20-3. Ruston Drilling Co. has 6-inch casing cemented at 2,167 feet on No. 1 Steel, Section 36-20-3.

Richland Parish.

Dixie Oil Co. cemented 10-inch second string at 909 feet on No. 1 McCoy, Section 29-16-6. W. C. Feazel's No. 1 Duff, Section 21-16-6, is drilling at 2,040 feet and No. 1 Noble, Section 36-16-5, is drilling at 1,625 feet. Gulf Refining Co.'s No. 3 Rhymes, Section 28-17-6, is in lime at 2,846 feet. Moody & Seagraves' No. 1-A Sartor, Section 8-16-6, is drilling at 2,412 feet; No. 1-B Sartor, Section 9-16-6, began drilling March 20; No. 1-C Sartor, Section 17-16-6, cemented 6-inch casing at 2,294 feet; Natural Gas & Fuel Corp.'s No. 4 Thompson, Section 21-16-6, is drilling at 1,900 feet.

Sabine Parish

Magnolia Petroleum Co.'s No. 1-B Hall, Section 33-10-12, began drilling March 19 and is on a rock at 212 feet.

Webster Parish

Cotton Valley—Humble Oil & Refining Co. is drilling No. 2 Webb, Section 14-21-10, at 1,706 feet. Ohio Oil Co. is bailing No. 38 Bodcaw, Section 15-21-10, for a test, total depth 4,649 feet, and No. 2 Crichton, Section 21-21-10, is in anhydrite at 4,496 feet. Woodley Petroleum Co.'s No. 1-B Cox, Section 23-21-10, was dry at 4,590 feet and is waiting orders.

ARKANSAS

Nevada County

Autrey Oil Co. has made location in Section 5-14-20 for No. 1 Calloway, a semiwildcat east of production in the eastern extension of the Irma proven area and for No. 2-F J. Haynie, in the NW cor. NW SE, Section 6-14-20; No. 1 Groves, Section 31-13-20, reported last week abandoned without testing at 1,285 feet was not abandoned, but is reported having been taken over by Humble Oil & Refining Co. for a deep test and drilling at 1,406 feet.

Ouachita County

Smackover—Little Fay Oil Co.'s No. 5 Robertson, Section 25-15-16, is waiting on standard rig to pump with 400 feet of fluid, 25 per cent salt water, standing in the hole from 41 feet of broken sand, total depth 2,066 feet; No. 6 Robertson is a derrick 250 feet south and 300 feet east NE cor. NE NW, Section 25-15-16. Ohio Oil Co.'s No. 7 Cramer, Section 22-15-16, is drilling at 2,602 feet. Phillips Petroleum Co.'s No. 1 Johnson, Section 34-15-15, was junked at 1,765 feet and is whipstocking casing at 1,450 feet.

Union County

El Dorado—Mellor, trustee, has rig up for No. 1 Bullock, Section 7-18-14. Mountz and others' No. 6 Pratt, Section 8-18-15, is drilling at 2,196 feet with cable tools.

Champagnolle—O. W. Estes has derrick pattern on location for No. 1 Rowland, 200 feet south and east NW cor. SW NW, Section 14-17-14. E. M. Jones is drilling No. 1 Stegall, Section 2-17-14, at 2,759 feet. Magna Production Co. has derrick up for No. 2 Rowland, 200 feet north and 250 feet east SW cor. NW NW, Section 14-17-14. Pure Oil Co. got the liner out of No. 1 Gregory, Section 10-17-14, and is arranging to go deeper; total depth 2,972 feet. Simmrall and others cemented 6⅝-inch casing at 3,169 feet to test 4 feet of sand in No. 1 Finley, Section 12-17-14, total depth 3,173 feet.

Smackover—Lion Oil Refining Co. is drilling No. 8 Hays, Section 4-16-15, at 1,985 feet, and Simmons and others have rig up for No. 1 Green, Section 3-16-16.

EAST TEXAS

Harrison County

Magnolia Petroleum Co.'s No. 2 A. G. Vincent, in the R. W. Bedford Survey, is drilling at 1,596 feet. Tylong Oil & Gas Co.'s No. 1 Armstrong, Simpson Holloway Survey, is drilling at 2,885 feet.

Panola County

R. E. Davidson made location for No. 1 Johns, 150 feet south and east NW cor. W. H. Woodley Survey, and has derrick up Magnolia Petroleum Co.'s No. 1 T. C. Adams, J. M. Birdsong Survey, is in shale at 1,046 feet; No. 1 Leigh Trosper, B. Stevenson Survey, is in shale at 2,073 feet. Natural Gas Products Co. tested salt water at 1,110 feet in No. 4 T. C. Adams, Evans Brackins Survey, and is drilling at 1,200 feet. M. H. Smith and others are drilling at 812 feet with 10-inch casing set at 102 feet on No. 1 W. C. Agurs, 1,400 feet south and 933 feet west NE cor. J. Womack Survey. D. Thomason and others have rig up for No. 5 Crenshaw, in the B C. Jordan Survey.

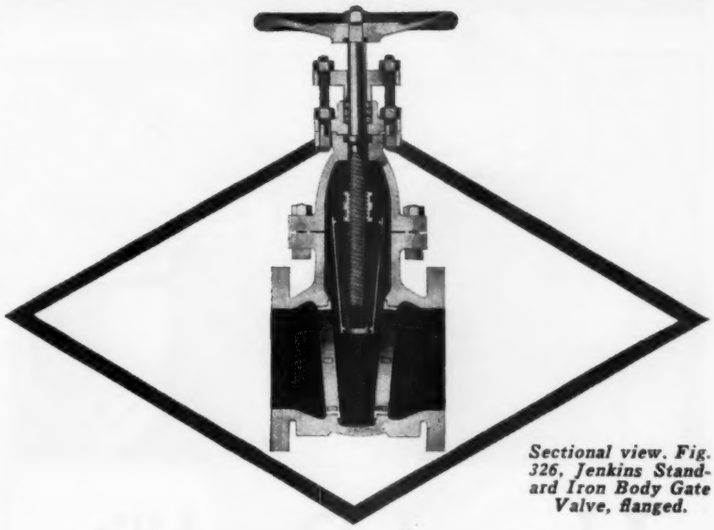
LA.-ARK. WILDCATS

(Continued from Page 45)

after there were streaks of lime and sand salt and sulphur ore to the present depth.

Morehouse Parish

In Morehouse Parish, The Texas Company's No. 1 Myers in Section 15-22-7, is shut down, reported waiting on fuel, at 2,530 feet and also reported having picked up the Monroe gas rock with chances of becoming a successful test. Location is about 15 miles east of production in the Bastrop, or northern end of proven area in the Monroe district. Formations have been running considerably higher than in three other wells



Sectional view. Fig. 326, Jenkins Standard Iron Body Gate Valve, flanged.

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Fig. 108 Screwed. Jenkins Standard Bronze Angle Valve

Fig. 370 Screwed. Jenkins Standard Bronze Gate Valve

Fig. 325 Screwed. Jenkins Standard Iron Body Gate Valve

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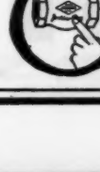

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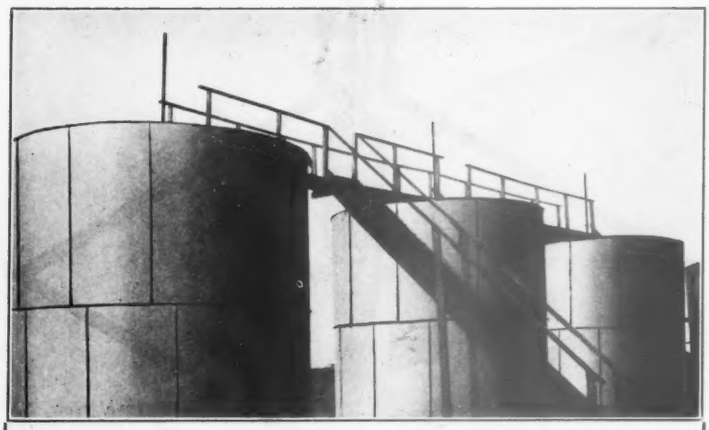

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they have drilled in this locality though at the present depth the showing is about 300 feet lower than in proven territory. Broken sandy lime, apparently the Monroe gas rock, was found from 2,495-2,520 feet and from 2,524-28 feet they cored volcanic ash and are setting casing for a test. Meanwhile they have added 3,000 acres to the block already held. Also the company has taken over a block of approximately 8,000 acres centering in Section 15-20-12, East Carroll Parish, from W. C. Feazel and others of Monroe. In the same parish, Palmer Corp. has made location for No. 1 O'Brien in the SE NE, Section 7-19-11. In Tensas Parish Enochs and others are reported to have a block of 9,000 acres in Township 11, Range 11, on which they are obligated to drill within 90 days, the test to go 3,000 feet. In Rapides Parish, Glenmore Petroleum Co. is reported to have had a small show of oil at 2,460 feet in No. 1 fee, Section 1-2s-2w, total depth 2,550 feet.

Humble Oil & Refining Co. took over Autrey Oil Co.'s No. 1 Groves, Section 31-13-20, Nevada County, just north of production, after Autrey abandoned it as a dry hole without test at 1,285 feet to make a deep test of it, but when it hit salt water at 1,569 feet it was abandoned. Autrey has made location for No. 1 Calloway in Section 5-14-20, east of production on a block of 2,000 to 3,000 acres extending south and east, and also for No. 2-F Haynie in Section 6-14-20.

Chicot County

Crawford and others have made location in Section 14-18-2e, Chicot County, Arkansas, for No. 1 Cashion and has derrick up to preserve leases on a block of acreage in territory that was worked over with geophysical instruments some time ago with not exactly favorable reports. Two Garland County wildcats are apparently ready to go on the abandoned list. H. H. Givans' No. 1 Garrett, Section 1-3-19, previouely reported abandoned at 3,025 feet has cable tools running but was not making any hole when visited. He claims to have had an oil show in 7 feet of sand at 1,765 feet and another at 1,945 feet; topped Oswego lime at 2,036 feet with a show of oil at 2,000 in this formation, and to be drilling at 3,000 feet intending to go to 3,500 feet. Chawood Oil Co. drilling No. 1 Malvern Lumber Co., Section 17-25-17, for the past year has been shut down at 1,670 feet since last November and is now in litigation, receivership proceedings having been instituted. They set 6-inch with packer to cut off a fresh water flow at 635 feet and bailed dry at 1,665 feet.

Grotte and others' No. 1 Allen in Section 2-13-31, Little River County, also is apparently a hopeless proposition. It has been standing shut down at 2,941 feet for over a year and has been worked on intermittently for the past four or five years. A vast collection of cable and rotary tools assembled on the location in that time reveals intentions of a thorough test but it is apparently a case of lack of finances and the $15,000 or $20,000, or more, worth of tools is rusting into junk. M. W. Greeson is reported to have begun drilling No. 1 Hatwig, Section 27-8-24, Logan County, and to have made 800 feet of hole with cable tools. Arkansas Manganese Co.'s No. 1 Ruth Wilson, Section 25-5-25, Pike County, is now Burns & Oldenburg's and with 15½-inch casing set at 265 feet was shut down at 625 feet when scouted during the week, though at that time preparations were under way to resume drilling. E. W. Garnett and J. T. Tulloson of Amith, Ark., and F. H. Oldenburg and Burns of St. Louis are interested in the wildcat and have combination rig for drilling.

Lyell and others' No. 1 Stegall, Section 11-17-13, Urbana district of Union County, has evidently passed the sand in which a half dozen wells in that locality a year ago came in with 50,000,000 to 75,000,000 feet of gas only to develop salt water shortly after, and in which one or two others made considerable oil with considerably more salt water. The pay in these older wells was around 2,600-80 feet and the Lyell well was salt water at 2,696 feet and is last reported on a rock at 2,702 feet.

NORTH LOUISIANA

Bienville Parish

Humble Oil & Refining Co.'s No. 1 Anderson, Section 29-18-5, topped the red shale at 370 feet and is drilling at 1,203 feet; No. 1 Calhoun, Section 16-18-7, began drilling March 16, set 8¼-inch casing at 41 feet and is drilling at 425 feet.

Bossier Parish

H. S. Goodwin's No. 2 Curtis, Section 36-17-12, is drilling hard lime at 3,000 feet. Rogers & Jensen's No. 1 Leibetter, Section 7-18-11, tested salt water in sand from 1,058-65 feet and is arranging for test of 3 feet of sand topped at 1,103 feet. Triangle Drilling Co. and Empire Gas & Fuel Co.'s No. 1 Bulkey, Section 9-20-13, got under way March 20, set 12½-inch casing at 80 feet and is making hole at 200 feet. Walker and others' No. 1 Antrim, Section 28-22-13, is drilling again at 2,880 feet.

Caddo Parish

Empire Gas & Fuel Co.'s No. 1 Nicholson, Section 33-17-14, began drilling March 20 and is down 150 feet. The Texas Company's No. 5 Hutchinson, Section 15-15-12, cemented 6-inch casing at 821 feet, drilled plug and is making hole at 835 feet.

Caldwell Parish

Greenwood Production Co. has acquired acreage in Caldwell Parish and has rig up for No. 1 Caldwell Lumber Co., 1,980 feet west and 660 feet south NE cor. Section 27-13-5.

Catahoula Parish

Leonard Petroleum Co.'s No. 1 Knott, Section 32-11-8, is drilling at 3,150 feet. Lochnager Oil & Gas Co. topped the Wilcox at 2,967 feet in No. 3 Beasley, Section 26-9-6, and is drilling at 3,200 feet.

Claiborne Parish

El Dorado Chief Oil Co.'s No. 1 Jones, Section 8-20-6, is drilling at 1,365 feet.

DeSoto Parish

R. O. Roy's No. 1 Tracy, Section 3-13-13, is drilling shale at 1,600 feet.

Lincoln Parish

Hoseay Harrell is drilling shale at 1,460 feet on No. 1 Griffin, Section 17-19-1w.

Monroe District

Morehouse Parish—Elbert Petroleum Co.'s No. 1 Morehouse Planting Co., Section 40-19-7, is drilling at 1,406 feet. Gulf Refining Co.'s No. 1 Higginbotham, Section 42-20-7, set 12½-inch second string at 940 feet. The Texas Company is arranging to set 6⅝-inch casing at 2,530 feet on No. 1 Myers, Section 15-22-7. United Carbon Co.'s No. 1 Bastrop Pulp & Paper Co., Section 18-21-6, is drilling at 1,960 feet.

Ouachita Parish—Phillips and others began drilling No. 1 School fee, Section 16-16-4, March 10, set 12½-inch casing at 212 feet and have not done anything since. J. P. White is fishing for core barrel lost at 1,905 feet in No. 1 Schmidt, Section 3-15-4.

Union Parish—Barbour Oil Co. is arranging to make a drill stem test of No. 1 Tugwell, Section 21-22-1e, at 2,404 feet after having salvaged a junked hole at 2,425 feet. Moody & Seagraves' No. 1 Robertson, Section 34-23-3, is drilling at 2,153 feet. Ouachita Natural Gas Co.'s No. 1 Hamilton, Section 22-19-1e, is drilling at 1,273 feet.

Rapides Parish

Glenmora Petroleum Co. is drilling No. 1 fee, Section 1-2s-2w, in gumbo at 2,510 feet. Minnesota Oil Co.'s No. 1 Wettermark, Section 13-5-4, is drilling at 1,700 feet.

Richland Parish

Gulf Refining Co.'s No. 1 Millsaps, Section 8-17-6, is in a green sand and shale at 3,200 feet. Moody & Seagraves' No. 1 McDonald, Section 9-15-5, was dry at 2,504 feet and is on a rock at 2,510 feet. Oliver & Masters' No. 1 Margie Hatch, Section 2-15-5, is waiting for 6-inch plug to set, total depth 2,290 feet; No. 2 Hatch in the same section was dry at 2,356 feet and will go deeper. Woodley and others' No. 1 Osborn, Section 3-17-7, is drilling 2,636 feet, well below where production has been found

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Sabine Parish

R. L. Gay's No. 1 Mansfield Lumber Co., Section 15-7-14, is drilling at 2,027 feet. The Texas Company's No. 1 Hamlin estate (formerly S. P. Borden and others' No. 1 Hamlin), Section 28-10-13, is shut down at 150 feet.

Winn Parish

Ohio Oil Co. is drilling at 4,825 feet on No. 2 Rolan, Account 1, Section 5-12-1w.

ARKANSAS

Bradley County

Johnson & Adams' No. 1 Southern Lumber Co., Section 12-12-12, is drilling at 2,895 feet.

Chicot County

Joe Crawford and associates have made location in the SW cor. NE NE for No. 1 Cashion, Section 14-18-2w, and have derrick up.

Clark County

William Henry and others' No 1 Clark, Section 34-9-21, is drilling gumbo at 700 feet. McKenzie Oil Co. cemented back from 650 feet to 633 feet on No. 1 Eakin, Section 9-11-19, after testing water in sand from 646-50 feet.

Columbia County

George Dawley's No. 1 Gantt, Section 12-17-22, is in gumbo at 1,985 feet.

Dallas County

Deeman and others' No. 1 Hillman, Section 20-10-13, is down 600 feet and drilling.

Logan County

M. W. Greason is reported to be down 800 feet with No. 1 Hatwig, Section 27-8-24, drilling with cable tools after starting February 1.

Miller County

Bruton and others' No. 1 Red River Farms, Section 2-17-26, is down 1,997 feet waiting for fuel. Lenz and others' No. 3 Dale, Section 23-15-26, is drilling at 2,870 feet.

Pike County

Burns & Oldenberg, formerly Arkansas Manganese Co.'s No. 1 Ruth Miller, Section 25-5-25, is rigged up with combination tools and with 15½-inch casing set at 265 feet is getting ready to resume drilling, total depth 625 feet. Carnes Guenther & Keith's No. 1 Kelly, Section 10-8-23, a rig is shut down at 633 feet.

Union County

W. R. Keever has rig up ready to drill No. 3-B Ezell, Section 12-17-15, and is waiting on standard rig to put No. 2-B Kavanaugh in the same section, on the beam with 500 feet of fluid standing in the hole from 4 feet of sand, total depth 2,137 feet. Lyell and others' No. 1 Stegall, Section 11-17-13, tested salt water at 2,696 feet and is on a rock at 2,702 feet. Magnolia Petroleum Co.'s No. 4 Cranston, Section 19-17-14, set 13⅜-inch surface casing at 312 feet and is drilling at 950 feet. J. O. Moore and others have rig up for No. 1 Pagan, Section 18-18-11. Rhodes and others' No. 1 Union Sawmill, Section 14-19-11, is drilling at 1,671 feet.

SOUTHWEST WILDCATS

(Continued from Page 42)

to east line and 150 feet to south line, is drilling at 368 feet; No. 1-A V. Guerra, Porcion 68, Block 92, located 150 feet to south and east lines, is standing at 210 feet. Kush Exploration Co.'s No. 1 Frank Doyno and others, Porcion 75, Block 13, is drilling at 697 feet. Clark & Woodruff's No 1 Kelsey, Porcion 76, is at 568 feet fishing for bailer. J. E. Harston's No. 1 H. Guerra, Survey 43, located 660 feet to south line and 1,320 feet to east line, is shut down at 1,120 feet. Deckle & McCarley's No. 1 Garcia, Survey 918, located 150 feet to south and west lines, is drilling at 3,000 feet.

Zapata County

Hill, Reiser & Weed's No. 1 H. Rodriguez, Block 1, R. V. Hill Subdivision, Villa grant, 870 feet to northwest lines and 450 feet to northeast lines, is moving on.

Bexar County

Allen Burnam's No. 1 Ward, southwest of Martinez in the A. A. Gardiner Survey, is shut down at 1,000 feet for repairs on pump. Larsen-Walsh and others' No. 1 Oppenheimer, William Miller Survey No 180, located 330 feet to south line and 300 feet to center of survey, is drilling at 1,465 feet. C. J. LeCompte's No. 2 Diaz, Survey 32, Block 4,283, and 450 feet north of No. 1, is shut down at 72 feet on rock.

Bastrop County

Noack & Laning's No. 1 Roemer, Isaac Casner League, is shut down at 1,925 feet. Rundus & Landua's No. 1 Frank Rundus, at Bartens Creek and Smithville-Cistern road, 12 miles southwest of Smithville, is erecting derrick and moving in machinery.

Blanco County

C. W. Bates' No. 1 Herman Massey, Henry Manton Survey, 920 feet to north line and 660 feet to east line of survey, is drilling at 175 feet in hard rock. Robert Rodson's No. 1 Glasscock, Survey 50, located 150 feet to CEL, is drilling at 435 feet in hard rock.

Caldwell County

LuTex Oil Co.'s No. 1 Wilson, A Floyd Survey, 800 feet north of No. 1 Davis, is shut down. H. C. Ratcliffe's No. 1 Brisco, J. Hindes Survey, center, spudded in and shut down. Louis P. Schawe's No. 1 Ted Schawe, Thomas Maxwell Survey, 6,111 feet to southeast lines and 6,986 feet to northeast lines of survey, was to spud in March 15.

DeWitt County

Durbin Oil Co.'s No. 1 Gohmert, G. W. Brooks League, 175 feet to north line and 300 feet to east lines, is shut down at around 2,700 feet. Empire Southern Oil Co.'s No 2 Smith, Survey 3, is shut down at 3,150 feet. H. T. Roe's No. 1 Lienhard, D. J. Bibb Survey, is shut down at 950 feet.

Dimmitt County

Humble Oil & Refining Co.'s No. 2 City National Bank, Survey 654, a few feet from No. 1, is drilling at 200 feet.

Edwards County

Devil's River Oil Co.'s No. 2 Turney, Section 167, C.C.S.D.&R.G.N.G. Survey and 600 feet north of No. 1, is standing at 443 feet, corrected depth, with shallow oil showing at 390 feet. Same company is moving in rig for deep test in center of east half of Section 164 of the C.C.S.D.&R.G.N.G. Survey.

Frio County

Karnes and others' No. 1 J. J. Little, B.S.&F. Survey, Block 41-A, located 340 feet to east line of survey and 300 feet south of Medina-Frio County lines, is shut down at 607 feet with rig moved off and efforts are being made to get new rig and drill deeper. F. A. Lain's No. 1 Edwards, Hooper & Wade Survey, 920 feet to CNL, is standing at 1,250 feet. P. A. Neilan's No. 2 Blackaller, James Gouley Survey, is shut down at 2,960 feet.

Gonzales County

W. D. Flynn's No. 1 Wilhausen, S. Bateman Survey, east central part of lease, is drilling at 1,578 feet. W. G. Malone's No. 1 Mrs D. G. Staton, 3½ miles south of Slayden, is drilling. The Texas Company has rig on the ground for No. 1 Denman near Ottine. L. P. Unkel's No. 3 Johnson, deep test in the shallow Slayden Field, is down 1,500 feet.

Guadalupe County

J. M. Rentz' No. 1 Siligman & Freeman, Gustavus Chotwell Survey, 1,100 feet to southwest lines of survey and farm and 1,130 feet to southeast lines of farm, is shut down at 60 feet after setting surface casing.

Hays County

Orren Estess-H. J. Moore & King's No. 1 C. N. Sledge, Hunton & Jones Survey, has moving in tools. J. E. Rodgers' No. 1 Hohenburg, 2½ miles east of San Marcos, at 2,189 feet made effort to swab and was not a success and is putting in new tubing.

Jackson County

J. B. Douglas' No. 1 C. O. Lowrance, 12 miles northwest of Edna, is ready to spud in.

Jim Wells County

Cushing Oil & Gas Co.'s No. 1 M. Perez, La Tinaja Survey in de la Lara grant, 600 feet to north and east lines of survey, is drilling at 700 feet with slight showing of oil.

Kerr County

Walker-Van Duyn's No. 1 Barfield, B. B. Peck Survey, 4,700 feet to north line

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and 450 feet to east line, is underreaming at 2,010 feet.

Karnes County

Reynosa Oil Corp.'s No. 2 Butler, Block 43, is still fishing at 2,007 feet.

Live Oak County

J. A. Harper and others' No. 2 Nichols, 300 feet east of No. 1, has set casing at 1,165 feet to test oil showing. War. Wood Hunt's No. 1 McNeil, Jane Curry Survey, 4,000 feet to NE cor. and 3,000 feet to northwest lines, is ready to resume drilling at 2,050 feet.

Medina County

Pat M. Armstrong's No. 1 Mangold, Survey 62, located 200 feet to south and east lines at 940 feet, is showing gas and is being drilled in. Medina Oil Co.'s No. 1 Taylor, Survey 135, is shut down at 1,243 feet. Morgan-Walsh's No. 1 Haby, Survey 50½, located 330 feet to west line and 600 feet to south line, is shut down at 703 feet.

Maverick County

Ryan Consolidated Petroleum Co.'s No 1 Indio, center of Survey 14, is fishing at 4,360 feet. Rycade Oil Corp.'s No. 1 Chittim, Block 7, Section 129, is shut down at 4,295 feet; No. 2 Rycade, Block 7, Section 158, is in lime at 4,180 feet and drilling.

McMullen County

Houston Gulf Gas Co.'s No. 1 Lark, O'Boyle Survey, is shut down temporarily at 1,390 feet (depth corrected.)

San Patricio County

Houston Gulf Gas Co.'s No. 2 Walder is rigging up. R. D. Kelly is making location for test 2 miles southeast of Odem. National Oil Co.'s No. 1 J. E. Sullivan, J. C. McMullen Survey, 500 feet to SW cor., has completed repairs and moving in new boiler and is ready to resume drilling at 1,805 feet. George B. Pickett's No. 1 Whitworth, NW NW Section 60, is drilling below 3,000 feet in hard formation; No. 1 Garrett is shut down at 3,030 feet. John Sigmund's No. 10 well, 60 feet south of No. 9 Robinson, has reached 1,900 feet and is reaming out and will set and cement casing.

Travis County

T. P. Garrett's No. 1 Rowe, R. Hornsby Survey, 900 feet to north and south lines and 8 miles east of Austin, at 1,025 feet is in top of Edwards with sulphur water and is shut down. H. J. Hill's No. 3 fee is shut down at 400 feet.

Uvalde County

Pure Oil Co.'s No. 1 J. D. Smythe, Survey 687, located 740 feet to north line and 146 feet to east of SE cor. of Section 20, at 1,678 feet has completed underreaming and resumed drilling.

Victoria County

J. J. Elam's No. 1 Vol Kutchka, 200 feet to CNL of Section 40, Kutchka Subdivision, total depth 1,400 feet, with last 250 feet in red gumbo and shale. R. M. Talbott's No. 1 Reeves is at total depth of 1,825 feet; J. J. Elam has bought the rig and may deepen the test.

Val Verde County

East Del Rio Oil Co.'s No. 1 Russell, Section 183, is shut down at 3,325 feet. Independent Operators' No. 1 Whitehead, SE SE Section 30, Block 4, I.&G.N. Survey, is preparing to resume drilling at 3,900 feet. Magnolia Petroleum Co.'s No. 1 W. E. Whitehead, GC&S.F. Survey, Block D, Section 81, is drilling at 6,380 feet. O. O. Owens' No. 1 Mills, Section 128, Block 1, is shut down at 4,210 feet showing gas. W. V. Traves' No. 1 Wilson, Section 115, is shut down at 905 feet.

GULF COAST FIELDS

(Continued from Page 47)

out Friday night but due to delay in getting up stock tanks, the drilling in has been postponed until Monday or Tuesday. This has been one of the most watched wildcats in the Gulf Coast district.

Bayou Boullion

At Bayou Boullion, St. Martin Parish, Louisiana, Gulf Coast's new oil field, the discovery well, No. 2 Atchafalaya, was opened wider during the week and averaged 3,000 bbls. daily, all of which is moved to the Baton Rouge refinery of the Standard Oil Co. of Louisiana. The well looks especially favorable since no water has shown up and the pressure is increasing. Rycade has spudded in on its next test, the No. 3 Atchafalaya, which is drilling around 700 feet. The latter, however, is on the southeast side, opposite the No. 2.

Pure Oil Co.'s last two producers at Sweet Lake, Cameron Parish, Louisiana, quit flowing during the week, and, as the discovery well, No. 3, which was worked over and bailed, failed to come back in, there was no production in that semifield. The two wells which went dead were Nos. 4 and 5, both of which were completed in February, the former making 2,400 bbls. daily and the latter 1,500 bbls.

At Sweet Lake, No. 2, which was to have been deepened from 5,100 feet to the sand at 5,662 feet in No. 5, at 5,924 feet in No. 4 and at 5,987 feet in No. 3, has been shut down waiting orders and its 2½-inch pipe is being moved to No. 4, which is to be worked on and deepened. No. 3, the discovery well, also is to be deepened, and liner is being pulled.

These wells have proved very erratic. No. 3 has sanded up numerous times but always before has been brought back in. No. 5's production has fluctuated, some days flowing pipe line oil, other days salt water and at other times only basic sediment. Pressure also has varied sharply from 25 to 900 pounds.

New Work at Barbers Hill

Considerable new activity is expected at Barbers Hill, Chambers County, Texas, as the result of the completion of Mills Bennett Petroleum Co.'s No. 1 Kirby, pumping and flowing 800 bbls. of fluid, of which 60 per cent is water. This is an old well in which liner was re-set at 5,468 feet and which was put on the beam.

At least two offsets are required, if the Bennett well makes as much as 200 bbls. daily for 30 days. Also at Barbers Hill, R. L. Bartlett's No. 1 Fisher has a sand showing oil at 2,154-64 feet. The test at present is standing with casing cemented. Mount Belleview Oil Co. is spudding in on its No. 1 Williams.

Among completions and abandonments of the week were Newton Drilling Co.'s No. 1 Dupre, south of Lake Charles, Calcasieu Parish. This wildcat, which has been watched closely was dry at 3,991 feet and was abandoned. Union Sulphur Co. has abandoned its No. 1 Crumpit, 14 miles east of Colmesneil, Tyler County, Texas. Miller and associates' No. 1 Pennington, in the Brenham district of Washington County, encountered an artesian water flow at 1,032 feet and has been abandoned.

At Raccoon Bend, Austin County, Humble Oil and Refining Co.'s No. 1 Wilson is drilling coarse sand at 3,350 feet and its No. 1-A Grawunder is in hard rock at 1,138 feet. Gulf Production Co.'s No. 3 Perry at Stratton Ridge has 6⅝-inch casing cemented at 5,280 feet, having an oil sand at 5,280-86 feet. Gulf's No. 15 Moore at Moores Field (Orchard) is drilling at 3,250 feet.

At Hockley, Humble Oil & Refining Co.'s No. 2 Texas-Warren is in shale and boulders at 262 feet and its No. 2 Warren is in shale at 4,666 feet.

Gulf Production Co. has completed its No. 3 Abendroth at Boling, Wharton County, pumping 400 bbls. from sand at 1,450 feet and has a derrick up for No. 4. Texas Gulf Sulphur Co. made five new locations on the Farmer leases on the northeast flank in Fort Bend County.

Blue Ridge—Fort Bend County

Completions at Blue Ridge during the week included Blakely & Means' No. 1 Blakely, which was brought in flowing 200 bbls. daily from sand at a total depth of 3,372 feet, and H. N. Gordon's No. 2 Blakely, making 1,000 bbls. from sand at 3,178 feet.

H. R. Cullen and associates have started drilling in two more tests, No. 2 Lafferty and No. 2 Davidson, following the completion two weeks ago of the first tests on each of these leases. Their No. 1 Luscher is drilling below 4,375 feet. Gulf Production Co.'s No. 11 Blakely also has been spudded in and is down 920 feet. This company's No. 12 Luscher is drilling at 1,300 feet. H. G. Nelms' No. 1 Overly is down 2,250 feet, and Sam Watts and associates' No. 3 Blakely at 1,700 feet. Rigs are up for Sinclair Oil and Gas Co.'s No. 1 Davidson fee and Watts Brothers Oil Co.'s No. 1 Scott.

Big Creek—Fort Bend County

Gulf Production Co.'s No. 39 Davis is drilling at 3,760 feet, and its No. 45 Davis at 3,030 feet. The Texas Company's No. 3 Wheat is down 4,175 feet.

Nash Dome—Fort Bend County

Operations were only routine at Nash Dome, Rycade Oil Corp.'s Field. Liner is being pulled in No. 16 Wisdom to deepen this test, which formerly was a well at 4,222 feet. No. 23 Wisdom cored a water sand at 3,535 feet and No. 24 Wisdom one at 2,769 feet. No. 25 Wisdom, which has just started drilling the past week is down 1,395 feet. No. 13 on the Nash lease is in sticky shale at 3,868 feet.

Hardin County Domes

At Saratoga, Rio Bravo Oil Co. has completed its No. 81 Jordit, pumping 240 bbls. of fluid, 26 per cent water, from sand at 1,186 feet. This company is rigging up for No. 83 on this lease. Gulf Production Co.'s No. 26 B.B.B.&C. is drilling at 470 feet.

Gulf Production Co.'s No. 1 Hamman, at Sour Lake, is drilling at 3,610 feet and its No. 3 Thomson at 4,050 feet. Minor Oil Co. has started a new test in its No. 83 Fee, No. 82 having made a small pumper the previous week. The latter are shallow holes. Theis Oil Co.'s No. 3 Merchant is drilling deeper at 2,436 feet, after being abandoned temporarily.

At Batson, Capitol Oil Co.'s No. 10 Hodges is drilling at 2,568 feet, and East Batson Oil Co.'s No. 5 Conselman-Crary at 1,134 feet. J. R. Everett's No. 3 King is down 1,243 feet.

Pierce Junction—Harris County

Pierce Junction added a small producer during the week in Moody Corp.'s No. 3 Hume, which came in flowing at the rate of 250 bbls. daily from sand at 4,876 feet. Strainer also has been set for a test of sand at 4,545 feet in Joe Bashara's No. 2 Fee, and also in Navarro Oil Co.'s No. 2-A Cain, which has an oil sand at 5,354 feet. Gulf Production Co. also has set strainer in its No. 24 Taylor at 5,600 feet.

Anderson & Plummer's No. 2 Whitehead is drilling below 4,552 feet. Cullen and associates' No. 4 Howe is down 4,820 feet. Gulf Production Co.'s No. 25 Taylor is drilling at 2,340 feet, and its No. 1 Saunders is milling out at 3,980 feet. The latter had been drilled to a total depth of 4,200 feet. Leonard and associates' No. 1 Settegast is drilling at 5,938 feet. Moody Corp.'s No. 1 Cooper failed to make a well when bailed at 4,628 feet and is being drilled deeper. This company's No. 1 Marland is drilling at 5,335 feet, and No. 2 Whitehead (second hole) at 3,789 feet. Rio Bravo Oil Co.'s No. 1 Settegast is drilling at 3,980 feet; its No. 101 G.H.&S.A. at 5,879 feet.

Goose Creek—Harris County

Goose Creek's sole completion was an old well worked over and put on the beam for around 20 bbls. daily production. This was Humble Oil & Refining Co.'s No. 10 Sweet. Humble's No. 73 Simms Smith has been deepened to 5,385 feet and is reaming to the bottom. This company is preparing to work over its No. 51 Gaillard (25 acres). Russell Farrell's No. 7 Gillette also is to be deepened as is W. C. Turnbow's No. 6 Trader. Gulf Production Co.'s No. 16-A Tabb is drilling deeper at 3,170 feet, and No. 19 Hoffman-Gaillard at 3,652 feet.

Spindletop—Jefferson County

Sun Oil Co.'s No. 2 Price, which was reported abandoned during February at 5,375 feet, was put on the pump during the week for 8 bbls. of net oil. Yount Lee Oil Co.'s No. 19 Fee was brought in making 2,000 bbls. daily from a sand at 4,650 feet. This company's No. 59 Faddin also has been completed flowing 1,700 bbls. daily from sand at 2,730 feet. This well was completed March 14 but was not reported until the past week. Gulf Production Co.'s No. 12-A Weed is flowing by heads 100 bbls. of pipe line oil daily after being swabbed. This test is in a sand at 5,325 feet. Sun Oil Co.'s No. 20 McLean has been abandoned temporarily after drilling to 5,440 feet.

Gulf Production Co. is drilling deeper

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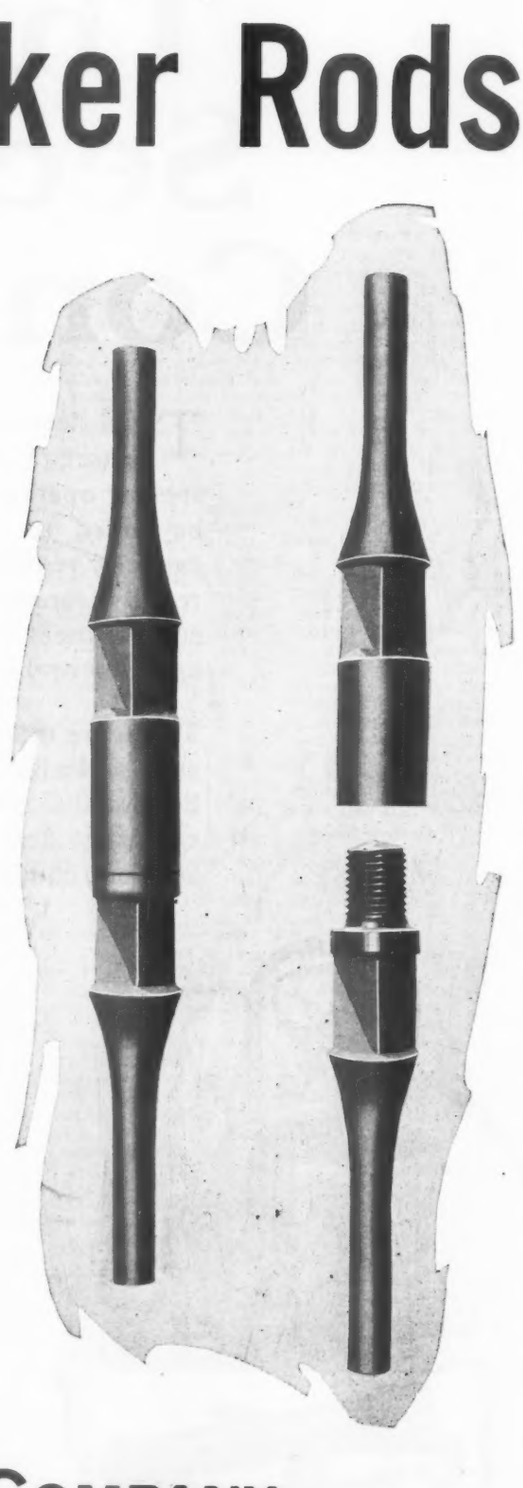

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at 4,975 feet in No. 8 Jack & Duff. This well was completed the latter part of February making 100 bbls. net oil from sand at 4,957 feet. Gulf's No. 13 Oakwood is cutting and pulling liner to deepen below 5,030 feet and No. 13-A Weed is drilling at 4,950 feet. No. 19 McLean is down 3,600 feet.

To the north of the west flank production. The Texas Company's No. 1 Gladys is drilling around 3,200 feet, Traders Oil Corp.'s No. 1 Cissell, north of Spindletop, is drilling at 3,988 feet, and Battleship Oil Co.'s No. 3 Parker, on the northeast flank, at 3,722 feet. Sun Oil Co.'s No. 1 Prather, on the east side, is drilling around 3,264 feet.

Hull—Liberty County

Gulf Production Co. got a small well at Hull in its No. 40 Phoenix, which was put on the pump making 120 bbls. of fluid, 8 per cent water and sediment, from sand at 3,030 feet. This company has a rig up to deepen No. 47 Phoenix and has started drilling in No. 90 Phoenix, the latter being a new test. This is down below 1,040 feet. Empire Gas & Fuel Co.'s No. 28 Barngrover is drilling at 2,915 feet. Republic Production Co. has a rig up to deepen its No. 77 Dolbear. Its No. 7 Dolbear, another old well, is to be put on the pump. No. 73 Dolbear is drilling at 2,395 feet. The Texas Company and Vacuum Oil Co.'s No. 7 Hannah blew in druing the week as a gas well with 450 pounds pressure from sand at 4,842 feet, but efforts are being made to mud off the gas and complete the well as a producer.

High Island—Galveston County

Marrs McLean has a rig up for No. 13 Cade, a new test. Gulf Production Co. has started drilling in No. 1 League and is down 600 feet. No. 2-A Smith is drilling at 2,989 feet.

Orange—Orange County

Orange's sole completion was Rex Petroleum Co.'s No. 10 Carbello, which was put on the pump at 3,152 feet for 30 bbls. daily. Gulf Production Co.'s No. 2-A Kishi-Lang has been put on the pump for 200 bbls. from sand at 3,190 feet. This company's No. 6 Chesson is to be deepened and is fishing for liner. It was put on the pump at 3,504 feet but did not make a well. Gulf has a location for No. 12 Peveto and is building the derrick This will be the only new test under way in the field, all other drilling operations being old wells being deepened. Orange Petroleum Co.'s No. 3 Winfree is being deepened at 3,605 feet. Rycade Oil Corp.'s No. 13-E State is in shale at 5,213 feet. Sun Oil Co. has set casing at 5,200 feet in No. 2 Brown. Supreme Oil Co.'s No. 2 Jackson tested salt water at 3,690 feet.

West Columbia—Brazoria County

The Texas Company has set casing to test a sand around 3,628 feet in No. 52 Hogg. Gulf Production Co. is getting ready to deepen its No. 1 Tom Hogg.

Markham—Matagorda County

Rycade Oil Corp. and Humble Oil & Refining Co.'s joint No. 1 Hudson is in shale at 4,171 feet. Amsher & Bess are deepening their No. 1 Smith.

SOUTH LOUISIANA FIELDS

Jennings—Acadia Parish

Yount Lee Oil Co. is starting a new test, No. 1 Crowley, 1,400 feet from the north line and 1,800 feet from the east line of Section 48-9s-2w. This company also has started drilling in No. 3 Housierre-Latrielle. E. L. Myers' No. 2 Arnaudet is standing at 1,508 feet after flowing only wash water with a little oil.

Edgerly—Calcasieu Parish

Wilson-Broach's No. 3 Wilson has been put on the pump making 200 bbls. of oil from a total depth of 3,744 feet. It has been standing 1,300 feet in oil. Gilmer Oil Co.'s No. 1 Fairchilds is drilling at 1,442 feet. Rex Petroleum Co. has set strainer to test a sand at 3,610 feet in its No. 8 Hunter.

Lockport—Calcasieu Parish

Vacuum Oil Co. and Gulf Refining Co. are preparing to deepen No. 3 Miller, an old well formerly completed at 4,402 feet. They now are waiting on a drilling rig. No. A-1 Fee is drilling in a sidetracked hole at 2,942 feet after going to a total depth of 5,809 feet. No. 6 Bordages is drilling in sand at 3,322 feet. No. 1 Calcasieu River is in a sandy shale at 3,006 feet. No. 5 Lock-Moore is in a hard sand at 2,296 feet. Liner is being cut and pulled to deepen No. 1 Bayou D'Inde.

Vinton—Calcasieu Parish

Marrs McLean got a small well at Vinton in his No. 1 G.&N.G., which was brought in flowing 125 bbls. of fluid, 50 per cent salt water. Gulf Refining Co. is rigging up for its forty-fifth test on the Star-Vincent lease. Edgerly Petroleum Co. has set casing in No. 11 Vincent and will test sand at 3,250 feet. Vinton Petroleum Co.'s No. 62 Gray is drilling at 1,775 feet.

Starks—Calcasieu Parish

Gulf Refining Co.'s No. 10 Industrial is drilling at 4,100 feet.

Sulphur—Calcasieu Parish

Sulphur received another comeback during the week when Union Sulphur Co.'s No. 722 Fee was bailed in flowing 1,500 bbls. of pipe line oil from sand at 3,490 feet. Production was through a three-quarter-inch choke and the oil tested 22 gravity Two other tests now are under way. No. 724 fee, which is drilling at 3,000 feet, and No. 723, which has just been spudded in.

Miscellaneous Texas Wildcats

B. A. Johnson's No. 1 Breeding has resumed drilling after a brief shutdown and is at 2,700 feet. E. M. Masterson's No. 1 Auerback has been shut down for repairs at 365 feet. Rich Oil Corp.'s No. 1 Von Rosenburg also is resuming drilling after being abandoned temporarily at 1,065 feet. Waldvogel and associates' No. 2 Tanner is drilling at 150 feet.

Miscellaneous Louisiana Wildcats

Roxana Petroleum Corp. has set 9⅝-inch surface casing at 461 feet in its No. 1 Watkins, Black Bayou district, Cameron Parish. The hole is in soft sand at a total depth of 491 feet.

At East Hackberry, Calcasieu Oil Co.'s No. 1 Dorion is drilling shale at 4,450 feet, and its No. 3 Caldwell is down 2,750 feet. Louisiana Land & Exploration Co. is starting drilling in its No. 1-B Calcasieu Lake.

Choupique Oil Co.'s No. 1 Benkenstein, Calcasieu Parish, reported abandoned early in February at 4,268 feet, has repaired the rig and is coring.

Roxana Petroleum Corp.'s No. 1 Wilbert, White Castle, Iberville Parish, cored a hard sand and shale showing slightly of oil at 2,313 feet. Union Sulphur Co. is starting drilling in its No. 2 Schwing in the Bay Des Glaise, Iberville Parish.

Scroggins and associates are rigging up for No. 1 Purveiance, a wildcat near the Welch Field, Jefferson Davis Parish. Gulf Refining Co. has started drilling in its No. 3 Starks et al, Chacahoula Dome. LaFourche Parish.

In Terrebone Parish, Southern Gas Co. has a derrick up for No. 5 Southdown, Section 102-17s-17e. No. 4 has been standing since February.

SOUTHWEST TEXAS FIELDS

(Continued from Page 42)

lines, is drilling at 132 feet with 10-inch casing set at that dpth.

Humble-Relter-Foster

Humble Oil & Refining Co.'s No. 7 Koh'er, Survey 165, located 200 feet to north and west lines, is reworking at 2,807 feet, total depth.

Driscoll Field

Robert Driscoll's No. 11 fee, Survey 448, located 560 feet to east line and 1,050 feet to south line, is drilling at 650 feet with surface casing set at 200 feet. Edwards St. Albans' No. 1 Hyatt, Block 25, Sweeden farm tract, 450 feet to south line and 150 feet to west line, is moving on.

Schott Field—Webb

Magnolia Petroleum Co. (Carnahan) No. 1 Garcia, Survey 53, located 200 feet to south line and 500 feet to east line, is drilling at 2,800 feet.

Randado Field—Jim Hogg

Magnolia Petroleum Co.'s No. 36 Merchants State Bank, Survey 415, located 1,100 feet to west line and 2,400 feet to north line, is drilling at 600 feet. Lightfoot and others' No. 1 Palacious, Survey 287, Block 13, located 150 feet to north and west lines, is ready to spud in. Moody Corp.'s No. 1 is making location, to be announced later.

Albercas Field

Newton Drilling Co.'s No. 1 Bruni, Block 64, Bruni Subdivision, 910 feet to south line and 365 feet to west line, is drilling at 1,300 feet.

Cole Field No. 2

Cole Petroleum Co.'s No. 54 Benavides, Survey 412, Block 5, located 632 feet to west line and 385 feet to north line, is drilling at 2,000 feet; No. 55 Benavides, Survey 415, Block 4, located 150 feet to south and west lines, has been spudded in.

Mirando Valley—Zapata

William R. Jewell's No. 1 R. Hinnant, Survey 10, Block 4, located 150 feet to northeast and southwest lines, at 1,746-52 feet is reaming to run tester.

Dale Field—Caldwell

The Texas Company's No. 3 Osteen, Swearingen Survey, 750 feet to southwest lines and 150 feet to southeast lines, is location; No. 4 Osteen, J. Gilbert Survey, is location 150 feet to northeast and southeast lines of 26.5-acre tract; No. 1 O. T. Moore, J. Gilbert Survey, 150 feet to north corner of 77-acre lease, has derrick up; No. 8 Clingensmith, Squire Damon Survey, 150 feet to south and east lines, has set casing at 1,950 feet, total depth 2,014 feet in Serpentine.

Luling Field

Pat M. Armstrong's No. 1 Hardeman, Miles G. Dykes Survey, 150 feet to northwest and southwest lines of farm, is in Buda at 2,050 feet with strong show of gas and is ratholing. Magnolia Petroleum Co.'s No. 8 F. M. Mercer is drilling at 2,216 feet. United North & South's No. 1 Kelly is drilling at 7,570 feet; No. 2 Tiller is drilling at 7,077 feet.

Kingsville Field—Kleberg

Humble Oil & Refining Co.'s No. 5 Kleberg, Section 40, Block 8, located 150 feet to south and west lines and northeast offset to No. 2 Flato, failed to make a well at 2,830 feet and is now 12 feet in sand at 2,937 feet, bailed down 1,500 feet with showing of gas but no oil; No. 6 Kleberg, Section 40, Block 1, located 450 feet to north line and 150 feet to east line, is drilling down 2,430 feet, is to plug back to 2,240 feet where it is thought it will make a small well.

Oakville Gas Field—Live Oak

Simmons Oil Co.'s No. 1 Frank Church, 200 feet to south line and 600 feet to NE cor. of farm, has set surface casing at 100 feet.

Adams Gas Field—Medina

Lange & Jarmon's No. 1 Adams, Survey 71, located 500 feet to north and west lines, is shut down at 60 feet.

Saxet Field—Nueces

Alamo Drilling & Leasing Co.'s No. 1 Gallagher, Survey 158, located 1,215 feet to north line and 650 feet to east line, is ready to resume drilling at 150 feet. Saxet Oil Co.'s No. 3 Weil, offset to No. 1 Reed & LePrelle set surface casing.

Refugio Field—Refugio

Houston Oil Co.'s No. 6 Rooke, is drilling at 3,000 feet; No. 11 W. J. J. Heard is setting casing at 3,390 feet. Houston Gulf Gas Co.'s No. 1 Virginia Hallman is laying water and gas lines to location; No. 2 Shelly is at 3,307 feet waiting on casing; No. 5 W. Heard is drilling at 3,000 feet; No. 2 Ryals is drilling in at around 3,300 feet; No. 1 Vance is standing at 3,600 feet having missed the 3,300-foot level. Saxet Oil Co.'s No. A-6 Wilson Heard is moving in machinery. George Williams, trustee's No. 1 Terrell, Martin Powers Survey, 6 miles southwest of Refugio, is testing.

West Field—Zavala

Tritex Oil Corp.'s No. 2 West, Juan Fuentes Survey No. 43, located 366 feet to north line and 266 feet east of Uvalde-Batesville highway, is drilling at 200 feet.

White Point Field—San Patricio

Alamo Drilling & Leasing Co.'s No. 1 Hunter at 1,872-80 feet cored 8 feet of gas sand and is reaming to set casing. Houston Gulf Gas Co.'s No. 1 J. M. Bennett, Roos Subdivision, offset to Houston Oil Co.'s well on the Steele lease is setting machinery. Saxet Oil Co.'s No. 1 Dennett, Roos Survey, Block 9, located 813 feet to south line and 658 feet to west line, is erecting derrick; No. 1 Hunter is setting surface casing.

Increased Demand Being Reported For Tubular Goods

By B. E. V. Luty

PITTSBURGH, Pa., Mar. 26.—Coincident with the technical advent of spring there has been a distinct increase in the past week in demand for standard pipe, with a lesser though noticeable increase in demand for oil country tubular goods. There has been a fair running demand for line pipe in small lots.

Operation of the pipe mills continues to average about 60 per cent The recent increase in demand is not sufficient to give the mills a heavier operation, as the mills are now lacking the substantial support given operations early in the year by line pipe, the large orders being now almost entirely completed.

Pipe mills expect the heavier demand to stiffen up the secondary market in standard pipe, which, as noted for some time past, has been subject to a good bit of shading in various districts. In fact, it is said there has been a noticeable hardening in prices in the secondary market in the past couple weeks. Mills do not admit that they themselves have done any shading.

Report has it that the Bethlehem Steel Co., which recently completed a pipe mill at its Sparrows Point works, near Baltimore, and can ship by water to Texas, got a slice of the line pipe order of the West Texas Gas Co., a subsidiary of the Prairie Oil & Gas Co., the remainder going to a Pittsburgh mill. The order totaled 154 miles, in 3, 4, 6, 8 and 10-inch. Among the various large line pipe projects talked of for months the three most likely to come to a head are the natural gas lines to Kansas City, Memphis and Omaha, the Kansas City line being regarded as the most promising as to early placing. It would total about 125,000 net tons, with feeders and branch lines, the principal tonnage being in 20, 22 and 24-inch.

The steel market generally is now in somewhat delicate poise. It had a large improvement over the relatively dull times in the second half of last year, but the force of the improvement seems now to be just about spent. The rate of steel production has been increasing up to the present month, having been at about 66 per cent of capacity in December and being likely to average for this month between 87 and 90 per cent. The quarter's production runs about 30 per cent over the rate in the last quarter. Mill schedules have now become somewhat wobbly and a given mill may run at a higher or a lower rate one week than the preceding.

The course of steel buying throws very little light upon conditions and prospects, for the reason that large buyers quite generally are covered. This occurred largely on account of the various price advances, for in the past three or four months substantially all finished steel prices have been advanced except in rails, pipe and tin plate. Buyers have not paid these advances to any extent as when they were about to occur they covered ahead It was thought up to a few weeks ago that a crucial test of the price advances would occur for the second quarter, buyers being called upon to pay them for second quarter but it gradually leaked out that old contracts were extended in one way or another so that large buyers are pretty well covered for deliveries well beyond April 1 at substantially the old prices. Thus demand for steel is exhibited by way of specifications against contracts rather than by way of fresh purchases and the measure of the volume of specifications is the rate at which the mills operate. The uniform precedent of the past four years has been for March to be the peak month of the year in steel production, decreases beginning in April. Last year the second quarter ran only 5 per cent under the first quarter. Production in the present quarter is 1 to 2 per cent above that in the first quarter of last year.

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KANSAS WILDCATS

(Continued from Page 40)

GREENWOOD COUNTY

Carnes & Bly's No. 1 Smith, NE cor. SE Sec. 4-24-13.....Dry and abandoned 1,801 ft.
Eureka Oil Co.'s No. 1 Brothers, SE cor. NW Sec. 35-23-11.....Drilling 2,489 ft.
C. A. Devine's No. 1 Bradford, SW cor. NE Sec. 32-26-11.....Shut down 600 ft.
C. E. Hawk's No. 1 Lessman, SE cor. SW Sec. 14-21-10...Dry and abandoned 2,197 ft. completed.
T. C. Johnson's No. 1 Knox, NE cor. NW Sec. 8-23-13....Shut down 1,705 ft.
Kismet Oil Co.'s No. 1 Richardson, SW cor. NE SW Sec. 26-22-11.....Location.
Sharpless and others' No. 1 Corder, SW cor. SE SE Sec. 22-23-12.....Shut down 1,310 ft.
Smith & Rockhill's No. 1 McDair, NW cor. SE Sec. 20-26-12.....Dry and abandoned 1,903 ft.

HARPER COUNTY

Barbara Oil Co.'s No. 1 Blunk, C NW NE Sec. 20-34-13w..Drilling 1,800 ft.
Amerada Pet. Corp.'s No. 1 Mendiville, C SE SE Sec. 24-34-6w.....Drilling 4,900 ft.
Sam Jarvis' No. 1 Wyckoff, SW cor. NW Sec. 11-34-4w..Drilling 4,517 ft.
Sam Jarvis' No. 1 Warneke, SE cor. SW Sec. 4-34-3w...Shut down 4,207 ft.

JEFFERSON COUNTY

Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17.....Rigged up and shut down.

KINGMAN COUNTY

James Madison's No. 1 Ballein, SW cor. NW NW Sec. 21-28-5.....Drilling 3,610 ft.

LANE COUNTY

Robinson and others' No. 1 Dickerson, SW cor. NW SE Sec. 11-18-27w.....Shut down 2,625 ft.

LINCOLN COUNTY

Pioneer Oil Co.'s No. 1 Chase, SE cor. SE Sec. 10-12-7....Rig on ground.

LOGAN COUNTY

W. H. Koons', Trustee, No. 1 Edwards, NW cor. NW Sec. 14-14-33w.....Corrected to 3,855 ft., dry and abandoned.

MARION COUNTY

Anderson Brothers' No. 1 Benth, SE cor. SW SW Sec. 31-18-5.....Drilling 2,396 ft.
Franks et al's No. 1 Wright, SW cor. NW NW Sec. 9-19-4.....Rig.
Givens and others' No. 1 Ucker, SW cor. NE Sec. 31-17-4.....Underreaming 1,820 ft.
Graham Bros.' No. 1 Nelson, NE cor. SE Sec. 30-17-5....Drilling 2,195 ft.
T. C. Johnson's No. 1 Thompson, SW cor. NE Sec. 26-17-4.....Drilling 1,655 ft.
Sun Ray Oil Co.'s No. 1 Lehrman, SW cor. NE SE Sec. 1-21-4.....Drilling 2,975 ft.
Shearer & Reardon's No. 1 Strouse, SW cor. NW NE Sec. 14-18-4.....Rig.

MEADE COUNTY

Blackwell Oil & Gas Co.'s No. 1 Beyer, SE cor. NW SE Sec. 9-33-28w.....8-in. casing 3,205 ft.; total depth 3,315 ft.; shut down.

MORRIS COUNTY

Cress & Hawley's No. 1 Grendler, NW cor. SE Sec. 16-15-5.....Drilling 1,230 ft.
Hugh Faulder's No. 1 Wendt, SW cor. SE SE, Sec. 18-15-5.....Rig.
Fisher & Louck's No. 1 Stroda, NW cor. SE Sec. 6-16-5.....Drilling 2,515 ft.
Franks & Farrell's No. 1 Wendland, SW cor. SE NE Sec. 20-16-5.....Drilling 425 ft.
Graham Brothers' No. 1 Nelson, NE cor. SE Sec. 30-17-5.....Drilling 1,420 ft.
Matthews and others' No. 1 Walters, SW cor. NE Sec. 14-15-5.....Spudded and shut down.
Moss & Nelson's No. 1 Smith, SW cor. SW Sec. 18-16-5...Rig.
Skelton and others' No. 1 Iles, NW cor. NW Sec. 25-16-5.....Rig.

McPHERSON COUNTY

Phillips Petroleum Co.'s No. 1 Wright, SW cor. NW NW Sec. 9-19-4.....Rig.
D. I. Hall's No. 1 Gray, NW cor. SE NW Sec. 20-20-3w..Spudded and shut down.
John Heron's No. 1 Vosshell, NE cor. NE Sec. 9-21-3w...Rig.
C. W. Lamer's No. 1 Lamer, SE cor. SW Sec. 1-17-3w...Underreaming 3,495 ft.
Girley & Lamer's No. 1 Paulsen, SE cor. NW Sec. 6-19-2w.....Rig.
The Texas Company's No. 2 Chinberg, NE cor. NE NW Sec. 32-18-2w.....Drilling 2,310 ft.
Danciger Oil Co.'s No. 1 Willem, NW cor. SE SE Sec. 6-22-4w.....Rig and tools.

OSBORNE COUNTY

Prather-Davis-Krueger's No. 1 Pruter, SW cor. SE Sec. 30-9-15w.....Shut down 2,360 ft.

PAWNEE COUNTY

Frank Hopper and others No. 1 Seifers, NW cor. SW NE Sec. 23-21-11w.....Drilling 4,038 ft.
F. C. Troupe's No. 1 Lovett, CEL NE NE Sec. 31-21-16w.....Shut down 1,700 ft.

POTTAWATOMIE COUNTY

J. J. Crawford's No. 1 College, CWL SW NE Sec. 11-10-12.....Shut down 2,250 ft.

RENO COUNTY

Danciger Oil & Refining Co.'s No. 1 Williams, NW cor. SE SE Sec. 6-22-4w.....Moved in tools.
Stearns-Streater & Marshall's No. 1 Crabb, SE cor. SW NE Sec. 1-25-8w.....Rig.

RICE COUNTY

Allison & Fitzwilliams' No. 1 Poland, NE cor. SW NE Sec. 36-19-8w.....Cellar.

RILEY COUNTY

Mutual Oil Co.'s No. 1 Marks, SE cor. NE NW Sec. 26-10-6.....Shut down 2,400 ft.

ROOKS COUNTY

Keys Petroleum Co.'s No. 1 Rathburn, NE cor. SW Sec. 14-9-16w.....Drilling 2,975 ft.
Krueger and others' No. 1 Poore, NE cor. NE Sec. 14-8-16w.....Spudded and shut down.
Stearns & Streather's No. 1 Matheson, NE cor. SE NW Sec. 28-10-16w.....Drilling 3,462 ft.

RUSH COUNTY

Valerious & Chenney's No. 1 Sheverman, NW cor. SE NW Sec. 27-17-17w.....Spudded and shut down.

SALINE COUNTY

Cress & Hawkey's No. 1 Grendler, NE cor. SE Sec. 16-15-5.....Rig.
Hugh Faulder's No. 1 Wendt, SW cor. SE SE Sec. 18-15-5.....Rig.
Mente Oil & Gas Co.'s No. 1 Muir, SW cor. SW Sec. 17-15-2w.....Underreaming 3,205 ft.

SEDGWICK COUNTY

Bu-Vi-Bar Pet. Co.'s No. 1 Wright, SE NE SE Sec. 12-26-1w.....Rig.

SEWARD COUNTY

T. B. Slick's No. 1 Pyle, NE cor. NE Sec. 14-33-33w....Drilling 3,165 ft.

SHERMAN COUNTY

A. L. Henson and others' No. 1 Murry, NE cor. SE NW Sec. 22-7-4w.....Shut down 2,650 ft.

SMITH COUNTY

Smith & Buchner's No. 1 Rice, SW cor. SW Sec. 18-5-15w.....Rig.

STRATFORD COUNTY

Randall-Johnson's No. 1 Richardson, NW cor. SW Sec. 24-22-11w.....Spudded and then abandoned.
Kismet Oil Co.'s No. 1 Richards, SW cor. NE SW Sec. 24-22-11w.....Location abandoned.

SUMNER COUNTY

Otstot and others' No. 1 Barlow, SE cor. SE Sec. 22-23-3w.....Shut down 1,860 ft.
Gypsy Oil Co.'s No. 1 Douglas, NE cor. SE NW Sec. 23-34-2w.....Top Wilcox, 4,493 ft.; total depth 4,500 ft.; estimated 200 bbls; shut down.

TREGO COUNTY

Central Commercial Oil Co.'s No. 1 Ellis, NE cor. SW NE Sec. 20-13-21w.....Spudded and shut down.

WABAUNSEE COUNTY

Empire Gas & Fuel Co.'s No. 1 Schuaem, SE cor. SE Sec. 19-12-11.....Fishing 3,320 ft.

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MOTORS ... Single-phase, Polyphase and Fynn-Weichsel Motors TRANSFORMERS ... Power, Distribution and Instrument
FANS ... Desk, Wall and Ceiling types

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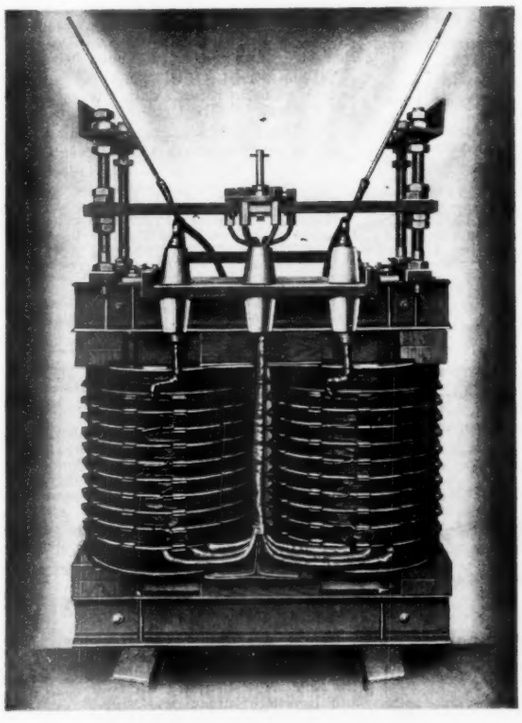
tap changers for quick change of voltage ...



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FOR SALE at attractive prices, 6 only 123′ McGraw Baughman & Bearley Turnbuckle Derricks and other drilling equipment, located northern Oklahoma near Kansas line. Write or wire G. H. Stevens, Room 1021 Mayo Bulding, Tulsa, Okla.

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4" O. D. GAS LINE
16 MILES LONG
Welded in 35′ lengths
Made from 4" O. D. Tubing; weight 5½ lbs. per foot. Material cleaned, cut with plain ends; A-1 in every respect. Located in Louisiana. Special price for
STANDARD RAIL & STEEL CO.
Bell Telephone Bldg.,
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BATTERY OF 2—300 H.P. each, Atlas Water tube boiler, each with 120-4" x 18′ tubes, 2-36" Diam. x 84" drums, 1-24" diam. x 84" drum, full flush front, Wright water columns steam gauge, safety and blowoff valves and all auxiliary fittings, oil for fuel. Mfd. by The Atlas Engine Works, Indianapolis, Ind.

Battery of 2—350 H. P. each Heine Water tube boilers, each 202-3½"x18′ tubes, 4-36"x18′ horizontal steam drums, full flush front, with water columns, steam gauges, safety and blowoff valves, and all auxiliary fittings, oil for fuel. Mfd. by Heine Safety Boiler Works, St. Louis, Mo.

350 H. P. Heine Water tube boiler, 202-3½"x18′ tubes 2-36"x18′ Horizontal steam drums, full flush front with water columns, steam gauge safety and blowoff valves, and all auxiliary fittings, oil for fuel. Mfd. by Heine Safety Boiler Works, St. Louis, Mo.

9—150 Horse Power Shell Return Tubular Boilers, Erie.
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7—25-Hp used gas engines.
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15,000 ft. 5⅞-in. used casing.
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Twelve-inch Wieland Pipe Threading and Cutting Off Machine made by Standard Engineering Company, Ellwood City, Pennsylvania. Used not over 30 days.
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1" to 6" at ½ price
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110 H. P. BESSEMER Gas Engine, generator and complete light & power equipment, $2,000. McMillon, Shamrock, Okla.

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15,000 Ft. of 6⅝—20 lb. casing.
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For immediate delivery.
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Sapulpa, Okla.

FOR SALE—35 H.P. Tico gas-engines, with reversible clutch, splendid condition. Box 877, Sapulpa, Okla.

EQUIPMENT WANTED

ROTARY AND STANDARD deep drilling outfit, wanted with crew; must bear investigation, to join good company, to operate in Texas and Oklahoma. Complete information first letter. Address C. L. Taylor, General Delivery, Dallas, Tex.

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I have one of the best propositions in the East. E. D. Watkins, Irvine, Ky.

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NATURAL GAS AND CASING-HEAD PLANT. Must have net income 1927 not less than $200,000. Will pay cash. Address
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Lands with good geology our specialty. Send us your blocks with full information, description, geological reports and your proposition.
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An ideal plant for barreling and exporting oil. Twenty-two acres located in Westwego (across the river from New Orleans) on the tracks of the T. P. and M. P. Terminal Company with a frontage of 715 feet on the river. Contains storage tanks with capacity of 1,000,000 gallons, also several buildings suitable for Office, Laboratory, Warehouse, Pump and Boiler House, and filling machinery. Reasonable price and terms. Apply Gillican-Chipley Company, New Orleans, La.

UNUSUAL OPPORTUNITY for several specialty salesmen to represent our product in the field. W. Va. Mid-Continent field, Montana, Wyoming, and foreign fields. Write at once to Mr. S Pass, 430 East Court St., Urbana, Ohio.

WANTED—To correspond with some responsible and competent drillers who are able to drill wells on some select wildcat acreage in Mississippi. W. T. Pitts, The Land Man, Indianola, Miss.

YOUR WELLS LOCATED by latest scientific method for small interest. C. L. Williams, 969B Union Trust Bldg., Pittsburgh, Penna.

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PUBLICATIONS

WEST TEXAS OIL DIRECTORY
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PETROLEUM ENGINEER—Graduate geologist, 4 years experience, have given satisfaction in charge of subsurface work, petroleum engineering, geological and production departments major company, open for engagement after March 15 and can give best references. Age 26, married. Box C-294, The Oil and Gas Jornal, Tulsa, Okla.

POSITIONS WANTED

SUPERINTENDENT—Familiar with all types of modern equipment and methods of operation and construction. Asphaltic and Paraffine Base crude. Can install up-to-date business-like management of all operations. Best of References. Box C-315, The Oil and Gas Journal, Tulsa, Okla.

TWENTY YEARS experience in cable and rotary tools, air and gas lift and pumping production. Ten years as superintendent in Mid-Continent fields. Married man. Now employed by big oil Co. Want to make a change. What have you to offer? Box C-311, The Oil and Gas Journal, Tulsa, Okla.

LAWYER—Wants permanent employment with oil company or corporation. Reasonable salary. R. W. Harville, 1619 South Norfolk Ave., Tulsa, Okla.

POSITION WANTED
Civil and Construction Engineer. Specializing in marketing end of petroleum industry. Land and property surveys and mapping. Design and supervision of tankage, pipe lines, casing and canning plants, fire protection, bulk and service stations. Speak Spanish and French and will go anywhere. Address "Engineer," Box 1113, New Orleans, La.

WANTED—Management of oil properties in Kentucky and Tennessee, either on a straight per cent basis or above a certain figure of the daily gross production. Prefer properties having some undrilled territory. Will consider partial developed properties for an assigned interest. Let us have your proposition. Box C-322, The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED by secretary and manager of Oil Producing and Gasoline Mfg. Co., have charge of office and field work. Thoroughly familiar with details. Personal interview will convince. Call 3-3494, Tulsa, for appointment. Box C-324, The Oil and Gas Journal, Tulsa, Okla.

THESE classified advertisements bring results.

GENERAL SUPT. with refinery experience, College graduate wishes a position with oil company; 6 years experience. Good eferences. Los Angeles district preferred. Considerable research work and construction work. Address Box C-323, The Oil and Gas Journal, Tulsa, Okla.

WHOLESALE SALESMAN — Wants position selling to jobbers only. Eleven years experience. Can furnish good references. Travel Idaho, Montana and Wyoming. Box 1561, Billings, Mont.

EXPERIENCED PUMPER or roustabout, any where in U. S. E. Baxter, 930 Blanchard Ave., Findlay, Ohio.

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Young executive, 35, married, 12 years varied experience in oil industry, geology, production engineering, land dept., valuation accounting and taxation; graduate mining engineer, Certified Public Accountant, knowledge of Law, 2 years in oil valuation, Income Tax Unit, enrolled to practice Treasury Dept., and Board Tax Appeals; past 5 years in successful charge accounting and tax departments of large oil company; seeks new permanent connection with better opportunities. Box C-320, The Oil and Gas Journal, Tulsa, Okla.

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GAS AND OIL leases for sale in the new central Michigan oil fields. Inquire of W. W. Russell, Mt. Pleasant, Mich.

SOUTHWEST TEXAS — WINKLER, Loving, Reeves, Ward, Pecos, Culbertson Counties.
Drilling blocks, Leases, Royalties.
Ranches in fee.
H. F. Anthony, Pecos, Tex.

NEW MEXICO—Leases in Lea and Roosevelt; cheap royalties in Roosevelt and Guadalupe; leases in any county; information regarding New Mexico developments. William U. Ttate, Franciscan Hotel, Albuquerque, N. Mex.

FOR SALE—Oil leases near drilling wells in Hancock, Ohio, Daviess, and McLain Counties, Ky. Prices reasonable. J. C. Preston, 400 E. 3rd., Owensboro, Ky.

WINKLER—PECOS COUNTIES
Leases and Royalties
W. S. PATTERSON
Pecos, Texas.

LAND, leases, royalties, for sale Okla., Texas. Waltman, Barnsdall, Okla.

FOR LEASE—320 acres West Texas, Martin County. Joins big production Counties. 188 acres Hamilton County, Kansas, in line present big lease drive by big companies. J. D. Clond, 1030 E. Ocean, Long Beach, Calif. Owner in fee.

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FOR SALE close to drilling wells; Leases, Royalties and Drilling Blocks in Webster, Calhoun and Chickasaw Counties. Best of Geological reports on this acreage. Box 4, Woodland, Miss.

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J. E. SHERMAN, Falfurrias, Texas.

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List of leases and geologist report furnished upon request. Joel Bailey, 417 Cleveland Life Bldg., Evansville, Ind.

HAVE ABOUT 10,000 acres paid up leases on the Box Elder dome at Box Elder, Montana. New standard rig up on location which is ¼ miles from G.N. R.R. depot. Plenty of good drilling water. Good camp and boarding facilities close by. One well now drilling by California independent on section 15. My location section 25 same township and structure. Would like to get in touch with responsible parties who are able to assist develop the property. Any reasonable deal or driller with tools considered. Will assist in raising capital if necessary. Address Ed de Robert, 920 Bannock St., Denver, Colo.

LEASES—PRODUCTION

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UNUSUAL OPPORTUNITY—Have block 10,000 acres, Eastern Kansas, 30 miles Kansas City. Geology and well logs show large enclosed sub-structure. Three encircling deep well (not on structure) penetrated two oil saturated horizons of more than 100 ft. in thickness each, at depths of 1,900 and 2,300 ft. This district encircled by more than 500 shallow oil and gas producers. Considered large gas proposition at depth of approximately 2,500 ft.; both oil and gas pipe lines cross the block. Will assign half the acreage for test well. Dr. E. E. Paddock, Kansas City, Mo.

6,500 ACRE solid block Colorado County, Texas, on structure described in The Oil and Gas Journal, March 15, page 46. Drilling on three sides. 2,500 acres for test. Owner, 1642 Rice Hotel, Houston, Texas.

CULBERSON COUNTY, TEXAS
Quarter, half, or full sections, ten year term, 10 cents rental, close in to Hickey et al drilling test section 20, block 82; favorable geology; price $2 per acre. H. W. Stevenson, Empire Bldg., Pittsburgh, Penna.

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N. ½ of N. E. ¼ of Section 7. N. ½ of N. W. ¼ of Section 8. Township 13 North, Range 6 East. I. Meridian, 160 acres, Sylvan H. Bledsoe, Forest City, Mo.

FOR SALE—160 acre lease, Tulsa County, 10 Bbls. Oil, gas. Well equipped. Address M. L. R., The Oil and Gas Journal, Tulsa, Okla.

LEASES—PRODUCTION

FOR SALE—Blocks of oil and gas leases in Ohio and Pennsylvania close to production, where the cost of drilling is cheap, ranging from 1,500 to 3,000 feet in depth. Room 1, Masonic Bldg., Muncy, Penna.

HAVE CHEAP TEN YEAR leases for sale Washita-Custer Counties, some ½ royalties and some good blocks of leases. J. J. Sallaska, Corn, Okla.

FOR SALE by owner, 360 acre oil and gas lease in Neosho County, Kansas. Four producing wells on property, recently drilled, fully equipped. Will sell reasonable. W. H. Bird, Matthewson Hotel, Parsons, Kansas.

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OIL ROYALTIES Western Oklahoma in line of New Development now offered at cheap prices. Also close in and producing royalties at very attractive prices. Write Walter K. Jones, 321 Braniff Bldg., Oklahoma City, Okla.

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WANTED — West Texas production. All details in first letter. Write Box C-296, The Oil and Gas Journal, Tulsa, Okla.

MONTANA producing royalties, bargains, odd lots. Raymond, Box 1776, Great Falls, Mont.

BUYERS AND SELLERS of Mid-Continent oil Royalties. Inquiries invited. Joe P. Crawford & Co., Petroleum Bldg., Oklahoma City, Okla.

ROYALTIES WANTED. Will pay cash for producing royalties, any size, priced right. Write legal description, number, age, depth, production of wells, full details and price. P. O. Box 1359, Tulsa, Okla.

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Perpetual Royalty Deed 120 Acres, Beaver Co., Oklahoma. $1.00 per acre. Box 25, Wilkinsburg, Penna.

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If these two classified ads appeared one beneath the other, you would unquestionably answer No. 2. It is concise but gives an adequate description of the generator units for sale. Prospective buyers will not ordinarily write for complete details, but expect them to be given in the advertisement.

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In writing your classified ads bear in mind that facts are essential. Tell the complete story.

Classified Wants Department

Fair Amount of Business at Chicago

Several Refiners Mark Up Prices One-Eighth Cent. Kerosene Firm. Fuel Oils Moving Steadily in Larger Volume

By J. B. Waldo

CHICAGO, Mar. 26.—The spot gasoline demand this morning was not very active yet there was a fair amount of business chiefly in the U. S. Motor grade. Several refiners marked up their prices and the bottom of the market was 6⅜ cents with some business doing at 6½ cents. These prices marked the range at which any volume of business was entered. Some small quantities were offered occasionally at 6¼ cents by brokers who had bought over the month at prices which permitted them to make this price with a small profit. At the close of the month there are commonly some small quantities left that have to be moved but they in no sense make the market price under present conditions. Several refiners advanced their complete line of gasolines one-eighth cent on Monday morning and the market is just about that amount higher than it was at the beginning of last week.

Kerosene was very firm at the same prices as at the close of last week, although more refiners were quoting 4½ cents than at the beginning of the last week but they were still within the range of quoted prices.

There was only a light business reported in distillates but a rather good demand for zero gas oils and for the higher gravities in the zero fuel oils. This demand came from distributors of furnace oil. The demand for industrial gas oil is strong and the market very firm with 2½ cents the low refinery price. A firm market for gas oils is anticipated as many refiners will not sell their straightrun gas oil until the volume of the gasoline demand and the price at which motor fuel will sell readily has been determined. The heavy fuel oils are moving steadily and in increased volume. Several industrial concerns were asking for prices on their April requirements or for a longer period in the morning's mail.

Prices Unchanged

The price situation was unchanged. Offerings by refiners are limited and the prices they quote are very firmly held. Even occasional offerings of small quantities at a slight concession were rare. Local and near-by consumption over the week was large as this city and surrounding district enjoyed fine weather although parts of the territory reported rain, hail and snow on Saturday. But on Monday morning the weather here changed to cold with rain. The country roads are still in bad shape for motor use. Refiners with distribution in the vicinity of the city and the independent distributors with headquarters here had a large number of requisitions for gasoline from station managers to replace the drawings from stocks at the stations during last week.

Overcontracting

Judging from statements made by the different refinery sales offices reparding the business last week it was uneven, some stating that their business was good, others that the spot orders had been light. Price seemed to be a deciding factor as the ones that most uniformly stated that their business had been good were asking a lower price than those who reported less favorably of the amount of business done. But in talking with the managers of the Chicago offices of two large refiners whose plants are located in the group and whose selling plans are not unlike there was another point developed that is worthy of consideration at the present time. One of these stated that their business had been light as regards spot orders and only fair from their contract customers but explained that several weeks ago they had made an extra effort for orders and probably filled up their regular customers to the capacity of their storage, or so the dealers now claimed. Quite a number of the contract customers had stated that owing to weather conditions or because their deliveries had been too large they could not take in any further shipments at present. The other sales manager stated that their spot business was good and that their contract customers were taking in their regular deliveries with very few requests for delays. The statements were so contradictory that some explanation seemed necessary to a correct understanding of the differing reports from the two managers and the latter was again asked if their contracts were being taken regularly to which the reply was made that they were and that it was his rule personally and with their salesmen in the territory not to urge their regular customers to contract for more gasoline than they could conservatively expect to sell. He said: "I would much rather have a contract for 1,000,000 gallons and know that the buyer will be able to take in the entire quantity than to make one for twice that number of gallons and be afraid all the time that he might fall down on his contract." This seems to be the logical way to plan the sales of a refinery, not to have a lot of contracts of which there is a grave doubt that they will be completed in full. There are some sales managers who are so anxious to make a good showing that they deliberately overcontract the refinery capacity and explain that at least one-fifth of the quantity called for by the contracts is not taken out for some reason. This may be one of the contributing causes to the over-running of the demand by some refiners.

Shipping Comparison

An incident was witnessed in this city that seems to almost cartoon the situation. A steamer was drawing up to its dock and a heavy hawser had been stretched between the boat and the wharf. As the steamship swung into the wharf the men on the dock were trying to take up the slack as it was paid out from the boat but occasionally the hawser would dip into the river. The mate on the deck would at these times emit a stream of objurations to the men who were obviously doing their level best. If the mate wanted to have his hawser kept dry as he apparently did from his forceful remarks, how much easier it would have been for him to have slowed the rate at which the hawser was being paid out from the steamer and give the men on the dock a chance to take up the slack. The dealers want to sell all the gasoline that they can and if they have a general fault it is that they give too much attention to getting gallonage. They cannot take up the slack if the refiners increase their output too rapidly. The demand for gasoline from year to year is showing an almost steady rate of increase. It runs from 10 to 12 per cent as a rule and considering the enormous volume of the gasoline consumed this is a vast quantity. Few basic industries show anything like the same degree of average increase. It is not the fault of the jobber that the refining capacity of the country has been been added to by new plants and by better methods until there is a possible output far in excess of the possible demand. Really the jobber is not the one that suffers most but too much must not be expected of him in the way of taking up the slack.

Buying Resistance

The spot market last week did not quite make the expected advance in price for the U. S. Motor grade. At the close of the week there were still several sources of supply including at least one leading refinery whose price here to its trade was 6¼ cents but the advance seemed to be only delayed until the quantity of this cheaper gasoline was absorbed by the increasing consumption. There were several leading refiners who held for 6⅜ cents and others who asked 6½ cents but might accept the lower price in competition with established sources of supply. Sales managers right up to the close of the week reported a considerable resistance from buyers to the 6⅜-cent price and even the sellers who asked 6¼ cents stated that they lost some business at that price from buyers who claimed that they could purchase for an eighth less. It is possible that they could but it is more probable that when their claim did not secure for them the wanted price from the first refiner they finally bought at the 6¼-cent but from another refiner to keep up the fiction that U. S. Motor gasoline could be had at something less than 6¼ cents Group 3. These prices do not refer to differential points. It was stated that there was little change in the territory to the east of Chicago where the competition between refiners at differential points is the keenest. One refinery stated that it had at last succeeded in selling some fuel oil to Detroit buyers but that the price was low and if gasoline is to be sold from the group at these destinations it will be on the basis of about 6 cents Group 3. There was only moderate activity in the higher tests. The 60-62 437 was sold by some refiners at the same price as the U. S. Motor grade and others asked 6⅜ to 6½ cents according to the price of the U. S. Motor grade. The 60-62 400 gravity was in better demand with many dealers than any other high test. The 64-66 375 was priced at 7 cents by most although some business went at 6⅞ cents early in the week and the strength in this product blends were moving fairly well and not from buying for domestic consumption. Special antiknock gasolines and benzol came from the export demand rather than being refined so largely as the standard grades at the prices established by refiners for their product.

Kerosene Steady

The demand for kerosene is active and quite steady. Some refiners make some complaint that the orders are more readily given than shipping instructions on deferred deliveries. Some refiners have been in the market for supplies to add to their own production and they find that the market is very firmly held with 4¼ cents the bottom price even for resale. Many refiners are holding for 4⅜ cents to the trade and some insist that the 41-43 gravity must bring them 4½ cents. There is a scattering demand for the 42-44 gravity but so many of the refiners do not run this grade that the business is rather concentrated so that an occasional refiner here states that his business on this grade is very good while others say there is nothing doing.

Gas-Oil Margin Narrow

Gas oil is very firmly held when a dealer attempts to buy but some way or another there are some of the consumers of quantities that secure a price below the regularly quoted market. In the straightrun product refiners are holding firmly for 2½ cents but buyers still insist that they can buy for a little less at times. This is not a general condition. One refiner sold a gas company at 2⅝ cents and lost the order of a gas company in a neighboring town at 2½ cents. The margin at best is very narrow. There is a growing industrial demand from manufacturing concerns that use the product. As the output of these manufacturing concerns increases they naturally need more oil. The gas companies are using a little less oil with the coming of warmer weather and longer days but several of the smaller concerns bought for their needs. Refiners are still slow to offer and one of the best sources of supply in the group is still stating that it is sold up.

There is some demand for the zero oils from distributors but the volume of business in this product is gradually decreasing. The demand comes in spurts. This immediate locality is enjoying such remarkably pleasant weather for the season it is hard to realize that portions of the territory are still digging out from drifts of the recent heavy snows. That storm seems to have been quite general except in this locality where there was no snowfall. The demand for furnace oils, including distillates, has dropped off gradually. Several refiners are no longer cutting the distillate and there is a desire to clean up the season. Last year we had the same experience of pleasant weather early in the season but last year it came in April. The following months were hot as fire and there was a revival of the demand for furnace oils which some found it hard to meet. Stocks in dealers hands are a little larger at least here and there is less likelihood of a late demand even if the weather makes a turn for the worse.

Inquiry for Fuel Oil

As the month passes there is a larger inquiry for fuel oil. Last week some large inquiries were received from the auto manufacturers. One from the Buick company was for 800,000 gallons of either 300 or 500 viscosity fuel oil which it was stated would be taken at the rate of two or three cars a day. There were several other inquiries on the same day from other concerns and quite generally there are more inquiries and for larger quantities. The orders are being placed rather slowly although some of the buyers are prompt to order. Regular monthly orders are quite generally for larger quantities. It is evident that some industries are now reaching their spring stride. It takes time for new business to reach the point where purchase of material can or must be made. The purchasing agent for a car company stated that it took his organization about 60 days before an important order would reach the purchasing department. Another recent feature of the business has been the placing of orders by some of the brick companies for supplies of fuel oil for 15 months on a straight price basis. One or more have signed such contracts and the oil which the seller agrees to furnish is a West Texas product described by the seller as a 19-24 gravity with a zero to 5 pour test and a 103 viscosity. The price was stated by one purchaser to be 85 cents Group 3 basis but he was free to order elsewhere if the opportunity presented to buy at a better price. The product he stated was as good as Smackover of which they had used large quantities. It would seem that this West Texas oil will go to take the place of the Smackover fuel of which the supply available here is light. Should the use of the West Texas product increase it would be not unlikely that more of the Smackover oil would seek a market in this manufacturing center. The steel and the auto companies report a larger output. Building construction locally is proceeding at a high rate. Railroad reports indicate an increased movement of general merchandise. Early reports of the acreage to be devoted to the leading crops state that a larger acreage will be plowed this

Maintain Advances in the East

Steady Movement of Gasoline at the Higher Export and Domestic Prices. Fuel Oils and Kerosene Steady

NEW YORK, Mar. 26.—East Coast refiners maintained the gasoline advances of the previous week in their export and domestic sales and there were indications the first of this week that additional increases would materialize before the end of March. In general, the gasoline movement to the domestic trade has been satisfactory at the higher prices.

Weather conditions have been more favorable for an increase in the domestic consumption. The feeling in this territory is that the refinery prices in tank car lots will be advanced just as soon as the spring demand is definitely under way.

The only important price change announced during the past week was the 1-cent advance in the bulk and service station prices at Philadelphia. The new prices are 16 cents tank wagon and 19 cents service station without tax. Philadelphia is one of the most important gasoline consuming centers of the eastern states with a large number of refiners and jobbers engaged in the retail distribution. Gasoline from the Gulf Coast and California is available for distribution in addition to that refined at the refineries in this territory. The tank wagon and retail market has been unsettled in that city for several months with price cutting prevalent. The advance which was announced by the Atlantic Refining Co. is interpreted as indicating an improved local condition which will spread to other sections.

There were no important changes in other refined products. The kerosene demand is not especially brisk and the furnace oil demand has had a very noticeable falling off due to the fact that the consuming season is nearly ended. Fuel oil, gas oil and lubricating oils are steady.

Gasoline Production Less

Reports from refineries in this territory indicate that the gasoline production is less now than it was a year ago. Refiners are running more crude oil to their stills but this crude is lower in gravity than it was a year ago and the gasoline yields are less. The January report of the Bureau of Mines shows that the gasoline output was 3.6 per cent less than it was in January, 1927, although the crude oil run to stills was 9.7 per cent greater in January of this year. This shifting in refinery operations to handle greater quantities of the low gravity crudes coming from the West Texas fields and Venezuela has obviously changed the marketing situation in this territory. With a substantial increase in consumption assured in this territory and the refinery output less than it was a year ago, refiners are expecting a better gasoline market than they had last year. The advances made in prices during the past month reflect this situation.

The situation which has lowered the gasoline yields at the same time has increased the percentage output of fuel oil available. Many refining and distributing concerns are devoting more sales effort to the movement of this fuel oil than they are to gasoline and kerosene.

Summarizing the present gasoline statistical situation at refineries for the entire United States, the following table, based on the latest available report of the Bureau of Mines (January), is of interest:

	Gaso. Output January		Gaso. Yield January		Gaso. Stocks January 31		Days Supply of Gasoline Jan. 31		Gasoline Output	
	1927 Pct.	1928 Pct.	1927 Pct.	1928 Pct.	1927 Pct.	1928 Pc.	1927	1928	Pct.	
East Coast	15.4	14.9	37.3	22.8	18.4	15.6	81	53	3.6	Dec.
Appalachian	3.8	4.0	44.5	45.2	2.3	3.4	38	42	5.0	Inc.
Indiana-Illinois	12.2	13.8	57.4	54.5	11.6	12.8	69	48	13.4	Inc.
Oklahoma-Kansas	15.6	15.7	54.8	52.9	8.1	9.7	31	28	0.4	Inc.
Texas Inland	4.0	4.3	36.5	39.0	1.3	2.1	18	22	7.3	Inc.
Ark.-Louisiana Inland	1.5	1.5	22.9	28.3	0.2	0.3	6	8	1.9	Inc.
Texas Gulf	18.6	17.0	45.1	42.9	13.3	12.2	52	30	9.3	Dec.
Louisiana Gulf	6.0	5.8	34.4	39.7	7.5	5.0	75	46	3.8	Dec.
Rocky Mountain	5.1	4.3	58.0	61.1	9.8	5.6	132	77	15.6	Dec.
California	17.8	18.7	27.6	32.4	27.5	33.3	122	75	4.8	Inc.
United States	100.0	100.0	40.2	40.9	100.0	100.0	68	46	0.3	Dec.

This summary gives further evidence of the fact that the increase in gasoline output is coming largely from the interior refining centers where the plants for the most part are operating with crude oil of relatively high gravity. The Texas Gulf Coast, like the East Coast—the two principal refining centers in the United States—is producing less gasoline than it did a year ago. These coastal territories also have less gasoline in storage than they had a year ago. Based on days' supply, these inventories are far less. For the country as a whole, it will be noted that the supply on February 1 had dropped from 68 days to 46 days.

Gasoline

The new price of 8¾ cents for U. S. Motor grade gasoline became practically unanimous the first of last week when the Standard Oil Co. of New Jersey advanced its quotation one-fourth cent. The price had been established the previous week by the Sinclair Refining Co. and other companies. The jobber demand has been fair at the new price. Distributors state that there had been very little resistance to the new price.

With the delivered price now 9¾ to 10 cents to jobbers there is some agitation to the effect that gasoline tank wagon and service station prices should be advanced generally in the eastern states. Some market observers, however, believe that this advance in the retail market will not materialize until later in the spring.

The export grades of gasoline have not changed in price. The movement is steady both in bulk and in cases.

Kerosene

The kerosene movement is not any stronger than is necessary to maintain prices. The water white grade is selling from 6¾ to 7¼ cents. The export movement is fair and this movement will probably improve next month. Prices are steady at 16.9 cents for standard white in cases and 17.9 cents for water white in cases.

Bunker Oils

No important changes developed in the bunker oil market in this territory. The generally accepted market is $1.35 at the refineries.

Occasional sales under this price are reported. Gas oils are quoted at 5 to 5¼ cents.

Lubricating Oils

More and more activity is reported in the oils coming from paraffin base crudes. This also applies to the Gulf Coast, a source of supply for this territory. Pennsylvania 600 steam refined was moving briskly as were the Pennsylvania grades. Prices on all grades were steady.

Wax

The export demand for wax is less active, although prices have not changed. The domestic market is steady, although buying the past week was not strong as it was earlier in the month.

Imports of Petroleum

Imports of crude and refined oils at the principal United States ports for the week ended March 17 totaled 1,831,000 bbls., a daily average of 261,571 bbls., compared with 1,902,000 bbls., a daily average of 271,714 bbls. for the week ended March 10, and a daily average of 220,072 bbls. for the four weeks ended March 17.

	Week ended March 17
At Atlantic Coast ports—	
Baltimore	109,000
New York	1,002,000
Philadelphia	243,000
Others	221,000
Total	1,575,000
Daily average	225,000
At Gulf Coast ports—	
Galveston district	65,000
New Orleans and Baton Rouge	191,000
Total	256,000
Daily average	36,571
At all United States ports—	
Total	1,831,000
Daily average	261,671
Daily average four weeks	220,072

Receipts of California Oil

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended March 17 totaled 158,000 bbls., a daily average of 22,572 bbls., against 445,000 bbls., a daily average of 63,571 bbls. for the week ended March 10, and a daily average of 46,214 bbls. for the four weeks ended March 17.

	Week ended March 17
At Atlantic Coast ports—	
Baltimore	80,000
Philadelphia	78,000
Total	158,000
Daily average	22,572
Daily average four weeks	46,214
Distribution of total California receipts is as follows:	
Gasoline	158,000

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year than last so the summer season bids fair to be a better one or at the very least as good as last year. The fuel oil price situation is still unsettled. Refiners are quite generally holding for full prices although occasionally a quotation is reduced and some purchases are made at less than the most recent quotations. The heavy fuel oils with an average cold test are being held at around 80 cents to buy from the refiner. The 24-26 gravity is held for 85 cents to buy. The present problem of the dealer is to secure from the consumer a better price than his costs. Many consumers have direct quotations and put these against the dealers' prices. Some refiners at present have broken away from their rule of not selling the car lot marketer or the broker and one is regularly quoting a resale and a consumer price with a margin of 5 cents for the middle man. Some of the prejudice against the middle man in the industry is passing away and it is now quite commonly admitted that the efficient tank car marketer working on his own capital can be of assistance to refiners under many conditions and that the value of the assistance depends a good deal on the refiner. In the case of the refiner mentioned there can be no doubt that it has resulted in the sale of thousands and thousands of barrels of fuel oil at a price which was satisfactory to that refiner. And it is this fact that accounts in part for the falling off for several months this winter of the usual run of orders to the Group 3 refiners.

There was a considerable demand last week from the Middle East for the lighter fuel oil or for gas oils. This demand was in excess of recent months.

Lubricating Oils

Refiners state that the compounders are taking out their purchases of lubricating stock away ahead of their agreements to give delivery instructions. In one case a large compounder has taken practically all of a contract intended to be completed by July 1. Evidently the compounders are having a good demand for their motor and industrial oils. Some compounders report their business with the dealers is very good, others state they are doing nicely. Prices seem to show some response to this better demand but right now there is still a very evident competition between the refiners in the various refining centers for all the business they can secure. As soon as one refiner has a good amount of business booked, another refiner who had a lot of orders to fill but has filled these orders, is ready to make his plans for a further run. So the quantity buyer is still able pretty nearly to name the price which he is willing to pay and secure the lubricating stocks at that figure.

Tank Wagon Scale

There have been no general changes nor local ones of any real importance in the tank wagon scale. The changes made have been adjustments at minor points and these are more important as evidencing the greater co-operation between the local dealers and their competitors, the large integrated companies than ever before. The reason is not far to seek. Several of the large companies which produce, refine and distribute, in fact perform the full cycle of the industry, failed to make their dividends. There can be no denial that this condition must have come through too great costs or too low selling prices. Probably many of these large companies feel they have done all they can do to cut their costs and the next step if they want to make money during 1928 is for them to advance their selling prices. Under the prevailing conditions this does not mean an increase in the tank wagon and service station scale at present but an advance if possible to that scale. That is to do away with cut prices, secret rebates, and similar deductions from the returns that would follow a business done strictly on the basis of the normal scale. If conditions should justify an advance above the present scale that would have to come after the present scale had been restored as completely as possible. This result, it is now understood as never before, can be best accomplished by a close co-operation of all members who are anxious for its permanent success. There is one suggestion that has been made during the past week and that is that in the event of a reported cut in price, actual or just threatened, at any point in the territory, a thorough examination of all the facts be made before the other dealers in that town meet the cut. The fact that a single dealer has reduced his price or that some outsider with a single pump has chosen to advertise the lowness of his general prices through a cut in the station scale is no real reason in the majority of cases why every dealer should follow. If the statement of the older dealers regarding the cost of doing business is true then the cut-price dealer will soon be forced out of business. If that dealer can, as he says he can, afford to sell at the lower price then he is the better merchandiser and bound to succeed. There are many motorists who do not care to drive a block to save 2 cents a gallon on their gasoline. There may be some who will drive 10 miles to make that saving. All the facts in the case of each reduction below the normal price should be known and studied before a reduction be made by all dealers to meet a single cut price. It is generally admitted the days of absolute uniformity of prices in the gasoline business have gone forever or at least unless some arbitrary power backed by the authority of the Government regulates the sales price and incidentally much more of the business. The matter of the sale of gasoline from a bulk station on a siding is another matter. The number of these stations must be limited. They should be guarded by certain restrictions to make them all safe for the public to use them freely. One large company which operates both kinds of stations in its territory at the usual difference in price, 2 cents per gallon, says the public does not care when the circumstances are understood. In any event much will be accomplished if the dealers in any locality will one and all agree to work together to minimize any local situation that may arise during 1928. The word co-operate would be applicable were it not that it has taken on an added meaning to its original significance of working together.

The Advantages of Pulling Together

Refiner Member Tells Marketers Co-operation, Not Competition, Is Needed to Meet Modern Conditions

By C. L. Henderson*
Vice President, Vickers Petroleum Co.

When I was assigned the subject "The Advantages of Pulling Together," I hesitated somewhat before accepting, due to the fact that it is my opinion this is a subject that has been talked upon more, with less good coming from it, than any other subject in the industry. Further, I realized quite well that coming from a refiner member of your organization, it might be rather a delicate, if not dangerous subject to handle, therefore, I will not let the subject interfere with what I want to say.

To begin with, please bear in mind that the statements I make are those of a refiner member and are the conclusions reached from the experience of my company, the Vickers Petroleum Co.

I take it that we are agreed that there always has been and always will be advantages in pulling together, but unfortunately, in this great business of ours, this team work has been rather noticeable by its absence.

Last fall, in a meeting of this organization, Mr. Ames of the Kanotex Refining Co. dwelt on practically this same subject and shortly after that meeting, President Nicholas sent a copy of his address to you, and I fear that many of you did not take it seriously, for if you had, there would have been no occasion to assign me to this subject.

We are taught, many of us, from our youth onwards that competition is essential to the health and progress of the race, or as Herbert Spencer once put it, "Society flourishes by the antagonism of its atoms."

But the real truth of the matter is, this pulling together, better known as co-operation, is good and competition is bad, and that society flourishes by the mutual aid of human beings. So I say this is obvious and so it is.

It is well known that in all great military or commercial enterprises, individualism has to be subordinated, to collective action. None of us for a moment believe that a house divided against itself can stand.

We know that a country divided by internal feuds and torn by factions cannot hold its own against a united people.

We know that in football, baseball, a ship's crew or anything of that sort, that "antagonism of the atoms" would mean defeat and failure.

We also know that if men are to found and govern cities, build roads, sink mines, erect factories, drill wells and such as that, they must work together, and not against one another.

Surely all of this is just as obvious as the fact that there could be no hive unless the bees worked as a unit.

Yet, apparently with a few exceptions, we go on and on in this business, each fellow paddling his own canoe and many with no real objective.

The retail price structure in many points during recent months has been noticeably unsettled, and my conclusion is that there are too many jobbers like Lord Nelson, who once said, that when he did not know whether to fight or not, he fought.

Some of you may feel that you are sufficiently large to fear nothing, and may the Lord grant that you are correct. However, bear in mind that it is said that the highest and most lofty trees have the most reason to dread the thunder.

Refiners' View

We, in the refining end of the business, know what the lack of co-operation has meant, and if you will recall, it was brought to your attention in that meeting of this organization last fall that those refineries, not competitors of yours, had decreased since 1924 from 104 to 64, a loss of 40, with a refining decrease of 50 per cent, and without my saying so, you know the situation today is no better.

I hope you will take seriously this statement and realize that this decrease in refining is that of your logical source of supply and further, realize, if possible, what will be your position when this supply is further reduced, and you are more at the mercy of refineries with distributing facilities of their own. Gentlemen, I say that co-operation and not competition is the very life of trade in our case at least.

Twelve years ago a choice was made with respect to future conduct. The jobbers' interest centered in a continuous attack on tank-car prices and the refiners' answer was integration. Despite the fact that retaliation should be intolerable where dependence is essential to success, the procedure of hammering away at prices continued and integration kept apace.

Today this situation is augmented by another factor that threatens to decisively end the strife forever, while only collective sanity and a restoration of supporting actions seem likely to save the day for inland refineries and marketers of their oils. The international character of crude supply, the ease with which crude oil may be transported, and the situation of domestic companies engaged in the exploitation of foreign fields are all vital factors in whatever future and fortune lies before you.

The year 1927 has been cited as one of vast production, yet there was but slight difference between the volume of our total petroleum demand and our domestic crude production. For the year the government figures were as follows:

	Bbls.
Domestic production	894,435,000
Petroleum imports	71,508,000
Petroleum exports	141,539,000
Total demand	902,135,000

From these figures it will noted that without our imports, production was insufficient to meet demand.

International Aspect

At the present time, however, the international aspect of petroleum presents another picture. New oil discoveries in many parts of the world have developed a potential volume of production that may be developed into actual production almost over night. Venezuela, Colombia, Mexico, and Russia, not to mention other fields, present both a problem and a menace.

No one questions the domestic need for oil nor that our motorists will continue to dot the highways of the Middle West. The international developments of petroleum, however, must have a tremendous influence upon the sources of gasoline and lubricant supply.

Fringing our coasts are refineries that last year utilized but 80 per cent of their capacity and consumed approximately two-thirds of all the crude refined within the borders of our country. These are the plants, vast in both size and resources, that have actual and potential crude production in foreign fields. It is true that in years to come, foreign demand may be built up to take care of this new supply, but in the meantime this country offers a market for cheap crude that is almost made to order. If, and when, the avalanche of foreign crude descends, we will see foreign crude consumed at seaboard stills at a time when the Mid-Continent prorates its runs and small refiners and producers are fading from the industrial picture. These will be the days when the value of foreign crude will fix our inland prices and deep-water refineries will supply our markets. It seems hardly necessary to call attention to the fact that jobbing is a development of the Middle West, a link between nonintegrated plants and the consuming market, an avocation that has but small part in the affairs of our coastal plants.

As I previously stated, 12 years ago the independent industry chose warfare and integration—today, the choice lies between co-operation or extermination. Experience has shown that a continual effort to increase the marketing margin leads to red-ink expansion in facilities, a further division of gallonage to both the jobbers and integrated refiners, rebates, concessions, and unethical practices that arouse the suspicion of consumers and contribute to the unprofitableness of our existence.

To all of this we now have added the problem of the international character of crude supply that threatens to revolutionize the nature of the refining business of the United States. Frankly, we have arrived at a period when it seems the source of the jobbers' oil supply may be obliged to draw the refinery fires and acknowledge its inability to face the competitive situation with which it is confronted. It has been suggested that the impending danger of foreign crude upon the values of the domestic oils and upon the fortunes of domestic producers, refiners, and marketers might be postponed by equalizing the value of foreign and domestic crude oil at seaports. Whether this is done or not, the real solution and the preservation of investment values rests primarily with the degree of co-operation that can be established between the nonintegrated factions whose services are complementary in spanning the gulf between crude production and the ultimate consumption of our oils.

No doubt we are all willing to agree that the principles of the Independent Oil Men of America are right and that the intention to co-operate with one another and establish coast to coast distribution of independent petroleum products is sound.

Your organization has shown wonderful progress by obtaining a wide membership of the best class of jobbers in the country, coupled with lubricating oil plants, and in recent months, you have added the membership of several independent refineries, who have come into your organization to help spread the Red Hat and Spread Eagle idea which has been advertised in the leading advertising mediums of the United States, and has been read by millions of people, but unfortunately there are a lot of good jobbers who have failed to take advantage of this advertising.

I sometimes think that the fellow who once made the statement about some folks having a perfect genius for doing nothing was either a member of our industry or at least rather well acquainted with this organization. And right here as proof that you have been overlooking a mighty good bet, let us refer to the statement of Alvin E. Dodd, manager of the distribution department of the Chamber of Commerce of the United States.

Marketing by Brands

Some of you no doubt heard Mr. Dodd when he spoke recently to the Ohio Petroleum Marketers Association. at which time he stated that it was disclosed in figures collected in the 10 cities of Chicago, Baltimore, Kansas City, Mo., Kansas City, Kans., Denver, Atlanta, Seattle, Syracuse, N. Y., Springfield, Ill., and Fargo, N. D., that there were 3,227 retail gasoline outlets, of which there were 1,550 chain stations, that is, those owned by the major oil companies, and individually owned stations numbering 1,677 or 52 per cent of the total stations in these 10 cities. However, even though owning 52 per cent of the total stations, their aggregate sales were only 23.6 per cent of the total gross business, amounting to $110,147,500 in 1926. In other words, even though owning more than half of the stations they did less than one-fourth of the gross business.

Naturally, there was a reason for this, and while Mr. Dodd says that perhaps the business psychologist might answer the question, he conducted a survey in 1927 among 500 motor car owners in 100 cities, and here is the answer. These motorists were picked at random from the registration lists and 47 per cent re-

> ***Crying Aloud Gets Us Nowhere; Pulling Together Only Hope***
>
> *Mr. Henderson closed his paper with these conclusions:*
> *The ordinary business customs of our country enable us to buy by description from people we seldom or never see. These transactions are usually on a credit basis and payment is made by check. Surely where such a degree of confidence in business prevails, refiners and jobbers can find and establish the degree of co-operation and ethical procedure essential to their industrial welfare.*
>
> *Gentlemen, this subject is old, we seem always to be hell-bent, if you will pardon the expression, on crying aloud, but the only answer seems to be the echo of our wailing voice.*
>
> *Never to my knowledge was there a time when the advantages and the necessity of pulling together were more evident than now. Our very existence today and tomorrow is like that of Rome, which endured just as long as there were Romans pulling together, and as independent, or possibly I should say dependent, refiners, we all can only endure as long as we pull together. The oil business as a whole seems to be one brimfull of trials and tribulations. A business where some of us grow old rapidly and become so toughened and hardened that we can scarcely get a thrill by being tickled on the sole of the foot, and though every one of us has spent his life learning the Golden Rule, I fear too few are putting it into effect.*

*Before I.O.M.A., Chicago.

plied that brand influenced their purchase of gasoline and oil.

This it would seem to me to be proof conclusive, that much should and could be gained by getting behind this Red Hat and Spread Eagle brand.

Refiners are making every effort to conduct their affairs efficiently; they are endeavoring to regulate their manufacturing policies in accordance with the requirements of their markets; they carry on continual research to the end that the qualities of their products may prove sufficient. These things, however, are insufficient without some support from those to whom we sell our oils.

There are at this time five refinery members in this organization now helping to support it, and standing ready to he'p in most any way by pulling together with you. However, I have sometimes wondered whether we were desired as a member particularly when I see some good Spread Eagle jobber here and there buying from an integrated company, who could not possibly have had the jobber' welfare at heart as could any of these five refinery members. Some of you may raise the point that there are only a few compounders and refineries in your organization, and they do not have combined capacity sufficient to supply your total membership and enable you to meet properly the competition of the integrated companies.

Insuring Supply

For the moment we will presume such an argument is correct, for once you have exhausted the supply of the refinery members and compounding plants, it will be more easy indeed to have others seek to join your splended organization, but as it is today, with you taking but a very small part of their output, you will at once recognize that there is no particular incentive for others to join, and on the other hand, if the jobber members in any one refining trade territory were taking the said refiner's output, you will at once see how the jobbers on the outside wou'd immediately seek to get within your organization.

We seem to lose sight of these facts and permit lesser important factors to influence us in our dealings. Therefore, I want to say that next to knowing when to seize an opportunity, the most important thing in life is to know when to forego an advantage.

Please do not get the idea that I am at all inclined to fault finding, also bear in mind that we have some jobbers who have been regular customers of ours for years. These realize that, by pul'ing together, we profit as well as they, and believe me, we appreciate this confidence placed in us.

The class of jobber I have just referred to are those that realize that it is co-operation, and certainly not competition, that is the life of trade in their case, and it seems very evident to me that their case is your case.

Bearing Down Prices

As long as there is a continual bearing down of the tank-car price that results only in increasing competition and decreasing net profits, refiners and jobbers can find abso'utely no ray of hope. Probably the greatest cause for such a situation is the tendency to speculate on future prices. When jobbers purchase in quantities in excess of those justified by the volume of their sales, the refining industry is led astray. It must equip itself with stocks sufficient for such an emergency and is often misled by the volume of such sales into manufacturing programs not justified by the true extent of the consuming market. Again there are instances where the jobbing trade withdraws from the market probably with the thought in mind that it may thus create an overproduction and purchase at its own price later on. Aside from these speculative features, there are other jobbers who never buy at any price except below the going market. We have been advised that for years, certain jobbers in all their purchases have sent out inquiries in the form of collect messages in an endeavor to obtain a particular car or cars selling at distressed prices. These practices and many others contribute to the continual depression of the market which benefits no one and often ultimately lead to a reduction in the price of consumers gasoline when either the jobber or refiner and possibly both are conducting their business at a loss. The vital things are for refiners to establish customers instead of simply buyers and for jobbers to establish a known and dependable source of supply.

From what I have heard from the other refinery members, their general view of the matter is very similar to that of ours, as we all have the same problems to solve and conditions to meet.

The refinery members of this organization have caused to be placed on all of their tank car equipment, the insignia or recognized trade mark of this organization. It seems that some jobbers are just a little selfish by refusing to get under this banner, as I have heard of an instance or two where jobbers have received shipments in cars bearing our insignia who said, as a selling argument to their customers, that they were getting from the same source as his competitor, who was openly displaying the Red Hat and Spread Eagle design. This seems to be a condition that we are unable to overcome so long as such a small per cent of our output is moving to the membership of this organization.

While I have been criticizing in a way, some of you jobbers for your lack of co-operation, I want to say that I am fully aware of the fact that the refiner members of this good organization are not without fault.

The marketing committee of the Western Petro'eum Refiners Association at their annual meeting the early part of this month, pointed this out.

Besis of Proposed Contract

This committee has developed a contract, the result of many months of work during 1927, and as it seems to be a step in the right direction according to those with whom I have discussed, I shall dwell upon it briefly, feeling as I do that it might be the means of bringing closer together our refinery and jobber members, the thing for which I am pleading.

Dating almost from the birth of contracts, they have been declared unfair first by the refiner and then by the jobber, just as conditions have varied, therefore we knew that we must get away from all the old plans or theories.

To begin with, some basic price had to be determined, therefore we took that of 36 gravity crude oil in the Mid-Continent Field which today is selling for $1.28 per barrel or about 3 cents per gallan, and as the average yield is 50 per cent, it would take 2 gallons of crude to produce 1 gallon of gasoline. Therefore, the cost of the raw material would be that of 2 gallons of crude or 6 cents. This amount the refiner would use as a basic figure, yet I doubt if there is a single refiner able to produce today a gallon of gasoline for 6 cents, that is, 58-60 U. S. Motor or better.

Going further into this contract, we will presume to supply at a point where there is a 17-cent service station price, 2½-cent freight cost and 2-cent tax.

Therefore from the 17 cents we would deduct the freight of 2½ cents, tax of 2 cents and allow a margin of 5 cents, leaving 7½ cents from which we would deduct the above mentioned factor or 6 cents, leaving 1½ cents, half of which the jobber would have, making a billing price of 6¾ cents and a margin of 5¾ cents to the jobber, thus making a price that I feel you jobbers will admit, is fair on the basis of a 17-cent service station price and crude selling at $1,28 per barrel.

There has been perhaps less of this pulling together or co-operation in connection with contracts than in any other point of contact, and it is to overcome this and bring about a closer relationship, that this contract was worked out, after collecting facts and figures in some 30 representative cities as to marketing conditions.

Line of Least Resistance

You might be interested in knowing that we discussed this contract with several good jobbers last year, and not one could find any fault with it, yet none would sign it, preferring instead to follow along the same old lines of least resistance for their purchases and base their invoices on some publication. In doing this, they contributed to a state of affairs which makes it possible for so many cut-rate stations to spring up and do harm to the industry.

I do not believe refiners will ever be successful in establishing a reasonable basis for price under contracts unless they can convince their jobbing trade that the price under the contract will be as favorable as that prevailing on the open market. Refiners have no more right to expect the jobber to contract on the basis of a certain price and sell competitors operating in the same territory at a lower figure. Contracts shou'd not be written with the expectation of outguessing the market and this applies equally to the buyer and the seller. The real basis for such sale should be a belief on the part of the jobber that he can get first class material, first class service and establish and develop a profitable business on quality and uniformity of price. From the standpoint of the refiner, the contract should be written for the purpose of securing a steady outlet for material at a price equal to the going price on the market and with the belief that he is developing a customer who will pay his bills and prove a satisfactory connection.

PRESIDENT W. C. TEAGLE AND PARTY VISIT GULF

HOUSTON, Tex., Mar. 24.—Walter C. Teagle, president of the Standard Oil Co. of New Jersey, and a party of other officials of this company and the Carter Oil Co. spent Friday and Saturday at Houston visiting offices of the Humble Oil & Refining Co. and the refinery at Baytown. The party came from Baton Rouge, where they visited the refinery of the Standard Oil Co. of Louisiana.

In the party in addition to Mr Teagle were R. M. Young, president of the Carter Oil Co.; Richardson Pratt, vice president of the Carter Oil Co., and J. A. Moffett, E. M. Clark, C. E. Graff, Orville Hardin, E. P. Salisbury, A. G. Phelps and Kurt Quick of the Standard Oil Co. of New Jersey.

The visit to Houston and Baton Rouge was part of a regular tour made every year to the various subsidiaries and affiliated companies.

PENNSYLVANIA MARKET QUOTATIONS FIRMER

OIL CITY, Pa., Mar. 24.—Gasoline and naphtha in the Pennsylvania refined market is strong and quotations were firmer during the past week than for some time. There has been no pickup in movement probably due to the fact that there has been no good weather for motoring until this week. Kerosene is unchanged in price. This product seems to be opening up during the past few days and there has been some retail demand for tractor use. This feature will play a great part in the market during the next few weeks and as soon as the roads dry up the kerosene situation is expected to show considerable improvemnt. Wax is rather strong and the market for it is good. Neutrals are still stronger in both demand and price. Fuel oil is unchanged. Bright stock is still weak but is a little stronger than has been the case. There was no change during the week in cylinder stocks.

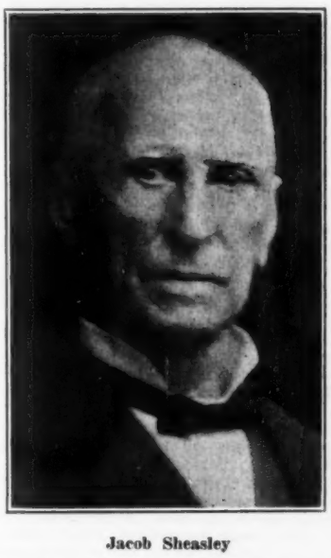
CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces that applications for junior petroleum technologist must be on file with the Civil Service Commission at Washington, D. C., not later than April 28. The examination is to fill vacancies in the Geological Survey, for duty in California, Colorado, Montana, New Mexico, Oklahoma, Utah and Wyoming, and for duty in Washington, D. C., or in the field. The entrance salary in the District of Columbia is $1,860 a year.

Jacob Sheasley, Old-Timer of Old-Timers, Dies at Franklin, Pa.

FRANKLIN, Pa., Mar. 23.—Another of the noble old guard of oil men passed away when Jacob Sheasley died at his home here Tuesday evening at the age of 93 years. He was the oldest active oil man in the United States having been continuously engaged in drilling for and producing oil since the middle sixties.

Mr. Sheasley was born at Millerstown, Dauphin County, Pennsylvania, on June 9, 1834. He gained a valuable business experience under his father, Christopher Sheasley, a contractor and later in the wholesale mercantile business before he came to western Pennsylvania. He purchased a tract of timber land near Punxsutawney and engaged in the general lumber business after which he



Jacob Sheasley

moved to Greenville in Mercer County and then came to Franklin, about three years after the discovery of oil by Colonel Drake. In Franklin he started in the coal business and supplied coal for many drilling operations. The lure of oil could not be withstood and Mr. Sheasley went into it as a producer. His wildcatting operations resulted in the discovery of the noted Franklin heavy oil field considered for years the best lubricating oil in the world. He remained an active producer up to the last.

Besides his oil interests Mr. Sheasley owned several farms, one of which comprised 650 acres of valuable land in Sugar Creek Township, where he conducted a fine dairy in addition to general farming. He was a director in the Franklin Trust Co., and was one of the most prosperous business men in this city. He took a public spirited interest in local affairs and was at one time a member of the city council. He was affiliated with all the Masonic bodies at Franklin and with the consistory at Pittsburgh.

Mr. Sheasley was paid high honors at the International Petroleum Eposition in Tulsa, Okla., last year when he was named the oldest living active oil man in the United States, and awarded a gold medal for that distinction. Mr. Sheasley was prevented from being present at the exposition, and the award was privately made a short time following the oil show.

Three sons, Charles, Jacob J. and George, all of Franklin, survive.

COLONEL OURSLER RESIGNS

Col. Howard B. Oursler of Ponca City, Okla., has resigned as general superintendent of warehouses for the Marland Oil Co. He is returning to his former home, Pittsburgh, Pa., where he will be interested in the construction of plants for reclamation of oils under processes he developed in salvage work.

Brief Items for Petroleum Refiners

Enlarge West Texas Refinery and Build New Wickett Plant

Equipment is being added to the Bluebonnet Refining Co.'s plant at Wickett, Tex., to enlarge it to 4,000 bbls. capacity and an arrangement has been made with the newly organized Wickett Refining Co. whereby the new company will purchase the tops and will finish these into gasoline, kerosene and gas oil, to be marketed locally. The additions to the Bluebonnet plant include a pipestill, condensers, and exchangers. This plant has been running about 2,500 bbls. daily and after the addition of the new equipment the runs will be increased to 4,000 bbls.

The same interests have organized the Wickett Refining Co. that now control the Imperial Refining Co., Kettle Creek Refining Co. and the San Angelo Refining Co., with plants located at Ardmore, Okla., El Dorado, Ark., and San Angelo, Tex. W. B. Hassett, treasurer and general manager of the new company, has spent the greater share of the past two weeks at the Wickett plant.

The following are the officers of the new company: President, C. R. Armstrong, Lock Haven, Pa.; vice president, John T. Withers, Jr., Dallas, Tex.; secretary, M. B. Wooley, Dallas, Tex.; treasurer and general manager, W. B. Hassett, Tulsa, Okla. Directors: C. R. Armstrong, Lock Haven, Pa.; S. H. Fredericks, Lock Haven, Pa.; John T. Withers, Jr., Dallas, Tex.; W. B. Hassett, Tulsa, Okla.; M. B. Wooley, Dallas, Tex.

The general tendency is to build small units at scattered points in the West Texas producing area in preference to building large centralized units. This plan is contrary to the trend of the refining industry, but can be explained by the fact that freight rates out of this territory into the more densely populated areas are high and the principal inducement for the building of any plants in West Texas is the relatively low crude prices. Wherever there is a sufficient concentration of population and consumption to support a plant it immediately becomes a possible refinery site, and it is the plan of most of the companies locating there to cater to the local trade and expand in proportion to the growth of the consumption in the immediate territory.

The Wickett Refining Co. will sell all of its products in and around Wickett, including gasoline, kerosene, gas oil and fuel oil. It does not expect to participate in the movement of refined products out of that field and into the north and midwestern states now lying in the Oklahoma and Kansas marketing territory.

AMERICAN REFINING CO. PROPERTY TO BE SOLD

All the properties of the American Refining Co., Inc., will be sold at a receivership sale on May 5, according to an announcement of the past week. The sale is in accordance with an order of the United States District Court of the northern district of Texas. The sale will take place at the Wichita County courthouse located at Wichita Falls, Tex.

The company has been operated by receivers for several months. The properties, which are valued at several million dollars, include the 6,000-bbl. refinery located at Wichita Falls, as well as a large number of producing properties located in Texas and Oklahoma. The company also owns marketing properties which will be sold.

John W. Hooser of Dallas and E. H. Eddleman and J. C. Mytinger of Wichita Falls are receivers for the company.

COMPANIES REFUSING TO LEASE EQUIPMENT

CHICAGO, Mar. 24.—According to announcement here, the Roxana Petroleum Corp. and the Sinclair Refining Co. will no longer lease equipment to dealers. In the future these distributors will be asked to buy the necessary equipment for the sale of gasoline and lubricating oils.

The practice of leasing equipment is generally recognized as being one of the worst evils that has developed in the marketing end of the oil business. It is expected that the policy adopted by the Roxana and Sinclair companies will be followed by other companies.

RATES ON GASOLINE ARE ORDERED REDUCED

Rates on gasoline and other petroleum products from Mid-Continent refineries to points in South Dakota, North Dakota and northwestern Minnesota were ordered reduced in a decision announced by the Interstate Commerce Commission March 23. The commission also ordered reductions on rates from Whiting, Ind., Casper and Osage, Wyo., and Great Falls, Mont., to points in South Dakota.

The present rates were found to be unreasonable. The decision is based on issues brought to the attention of the commission in the Mid-Continent oil rate case No. 15,584 and related cases.

In regard to the rates from the Mid-Continent points the commission prescribes rates which are in line with the present rates to adjoining states. From the Wyoming points to South Dakota the commission stated that the rates on gasoline shall not exceed 50 cents to Redfield, Huron and Mitchell, 45 cents to Pierre and Chamberlain, 36 cents to Rapid City and 40 cents to Belle Fourche.

From Great Falls, Mont., on the Chicago, Milwaukee & St. Paul Railroad to South Dakota maximum rates of 60 cents to Mobridge and 65 cents to Aberdeen are prescribed. From Miles City, Mont., the maximum rates authorized are 35 cents to Lemmon, 40 cents Mobridge, 45 cents to Aberdeen and 50 cents to points east of Aberdeen.

HUMBLE RESUMES WORK ON INGLESIDE REFINERY

HOUSTON, Tex., Mar. 27.—Humble Oil & Refining Co. has resumed construction work at its Ingleside, Tex., refinery, it was learned today, and now is expecting to have the plant in operation by early July. Construction at the refinery had been suspended for more than a month because of the suit of the State of Texas to enjoin the Humble Pipe Line Co. from building a pipe line across Corpus Christi Bay to deepwater loading racks. Decision was rendered the past week at Austin permitting the pipe line company to proceed with its project.

While the State's suit was not directed at the Humble Oil & Refining Co.'s refinery project, the company did not wish to proceed with the plant if adequate shipping facilities were not available. The pipe line company, however, so far has not resumed its work on the line pending other possible legal aspects, it was announced by the pipe line officials.

LION WINS SUIT

CHICAGO, Mar. 22.—The Lion Oil & Refining Co. today was awarded damages of $100,000 against the Sinclair Refining Co. by a jury in the Circuit Court of Cook County. The suit which was filed about a year ago was based on statements alleged to have been made by salesmen of the defendant company reflecting on the financial standing of the plaintiff.

The plaintiff introduced testimony tending to show that due to these statements the company lost valuable business. The Lion company operates a large refinery at El Dorado, Ark., and sells a large part of its plant output in this territory. The Sinclair company has announced that it will appeal the decision.

Name Lou Harrington As I.O.M.A. Manager Succeeding Nicholas

CHICAGO, Mar. 24.—Lou Harrington, former field secretary of the extension department of the National Association of Real Estate Boards, will be in active charge of the work of the Independent Oil Men of America, according to an announcement made during the closing day of the annual convention held here this week. Mr. Harrington will have the title of business manager and his duties will be similar to those of L. V. Nicholas, who retired as president.

Mr. Nicholas was succeeded as president by Col. E. H. Hilpp, vice president and general manager of the Kentucky Consumers Oil Co. of Louisville, Ky. Under the new plan of management, the business manager will be paid head of the association and not the president as has been the case in the past.

Mr. Harrington, although not widely known in the oil business, has had several

Lou Harrington

years' experience in association work. Previous to his connection with the National Association of Real Estate Boards he was membership secretary of the Chicago Real Estate Board. He was also engaged in the real estate business for several years. Miss Eva Arnstein, who has been connected with the association for several years, was re-elected secretary and treasurer.

The board of directors also announced that the present staff of the association would continue to function as in the past. E. E. Jensen, manager of the lubricating oil department, and J. S. Hoagland, in charge of the gasoline sales department, spoke to the membership on the last day of the convention explaining their plans or the coming year.

J. C. Nourse, president of the Nourse Oil Co. of Kansas City, delivered the principal address on the final day of the convention. He urged greater co-operation in the sale of independent lubricating oils.

N. J. COMPANY EXPLAINS SIGNIFICANCE OF PRICES

The significance of new posted prices is stated as follows in The Lamp, published by the Standard Oil Co. of New Jersey:

On February 21 the Carter Oil Co. posted a revised schedule of what it would pay for Mid-Continent oil. The change was an effort to readjust prices to conform more nearly with the realization value of refined products.

The old posted prices under which the industry was buying crude allowed a differential of 2 cents per barrel for each variation of one degree in gravity. The revised basis makes more of a distinction between light and heavy grades. Starting at a figure of $1.16 per bbl. for 32 degrees crude, the new schedule advances 3 cents per barrel for each degrees above 32 degrees and declines 5 cents per barrel for each degree under that point.

From the standpoint of the buyer of the oil delivered by the pipe line companies, there is practically no difference between the old and new schedules. The average stream of Mid-Continent crude as sampled at main junction points has been 30

(Continued on Page 182)

GOVERNMENT OF INDIA ACTS IN PRICE WAR

The oil war in India between the Dutch-Shell and Standard of New York has reached the Indian government tariff board. An immediate inquiry, it is announced, will be made by the board with a view to protecting Indian petroleum against the results of the price war. The official announcement says decision to make the inquiry was based on representations from a number of other companies affected. The government believes that measures can be devised whereby substantial relief can be given the lesser concerns.

The tariff board first will determine what price for kerosene should be taken as the equivalent of world parity at Indian ports. It also will report whether protection against dumping is in the national interest, and, if so, what form that protection should take. A further inquiry will seek to determine whether it is likely the present price war will extend to gasoline, and if so, what measures should be taken.

TO BUILD BIG LAKE PLANT

Roy McKee of Tulsa and E. B. McKee of San Angelo, Tex., have announced plans for the construction of a skimming plant at Big Lake in Reagan County, Texas. The initial capacity will be 1,000 bbls. daily. The owners are to be given a plant site and a $5,000 bonus by the Chamber of Commerce at Big Lake. The plant will probably be operated under the name of the Big Lake Refining Co.

H. S. MORTON DIES

Henry S. Morton, retired, former vice president and member of the board of the Standard Oil Co. of Indiana, died of pneumonia March 20 at his home in Chicago. Mr. Morton was with the Standard Oil Co. more than 36 years, retiring in May, 1922. He was in charge of sales and was consulted on matters of lubrication, in which he was an expert. In 1903, Mr. Morton made a tour of European countries to study lubrication problems and methods.

Two sons survive, Dr. Frank R. Morton, president of the Chicago Medical Society and chief surgeon of the Standard of Indiana, with whom Mr. Morton lived for many years, and Edward F. Morton of Joliet, Ill.

Natural Gasoline Manufacture

WESTERN OPERATORS ADOPT CHARCOAL TEST

At the regular monthly meeting of the California Natural Gasoline Association, held in Los Angeles, Calif., the "tentative standard pressure charcoal test for natural gas-gasoline content" was adopted by a vote of the membership.

The standard as adopted is the outcome of the work which has been carried on by the gas testing committee of the association during the past several months, and represents a summing up of the best current practice in the determination of the gasoline content of natural gas by the manufacturers of natural gasoline in the State of California. It is believed by all concerned that this standard test will be fair to both the producer and the manufacturer, and its use is recommended in connection with all royalty settlement tests.

If, as the result of the adoption and use of this standard test, any improvement can be made in the test method, such improvement will, after due trial, be incorporated in the standard procedure. It is hoped that this procedure will result in the development of the most practical test in the minimum space of time.

The standard as adopted will be published in the form of a bulletin by the Association in the near future, and will be distributed or sold to members or others who may be interested. When available for distribution copies may be obtained by communicating with the secretary of the association, Paul D. Barton, 701 South Palm Avenue, Alhambra, Calif.

GRIMES GASOLINE CO. BUILDS AT WELEETKA

The Grimes Gasoline Co. is building a 3,500-gallon compression and absorption gasoline plant near Weleetka, Okla., to strip the gas used in the city's power plant. The gas is delivered to the plant through the Weleetka pipe line and the stripped gas is returned to the line, thus eliminating a separate gathering system for the plant.

The plant is being built so it can be expanded as the needs of the power plant increases. The plant uses electricity exclusively for power, all oil pumps and water pumps being motor driven. Approximately 7,000,000 feet of gas will be run through the plant daily. The plant is located in Section 22-10-11.

This company has other plants located at Haskell, Keystone and Okemah (2), Okla.

STANDARD GASOLINE CO. OPERATES 54 PLANTS

The Standard Gasoline Co., a subsidiary of the Standard Oil Co. of California, had an average natural gasoline production of 395,000 gallons in 1927, according to the annual report of the parent company. This production was obtained from 54 plants which processed 315,000,000 feet of gas daily. This gas was obtained from 270 leases owned by 73 companies. The company is the second largest manufacturer in the natural gasoline industry.

All of the natural gasoline output of the Standard company is absorbed at the company's California refineries which ran an average of 159,279 bbls. of crude oil to stills daily during 1927. A pipe line system with a daily capacity of 4,500 bbls. daily was installed in southern California for the handling of natural gasoline to the company's El Segundo refinery.

SEVENTH ANNUAL CONVENTION OF NATURAL GASOLINE ASSOCIATION

The program of the seventh annual convention of the Natural Gasoline Association of America has been announced by A. V. Bourque, secretary. The meeting is to be held in Tulsa at the Mayo Hotel, May 22, 23 and 24. The general scheme of the program is to devote as much time to the business meetings as possible, and to accomplish this, the first day will include sessions in the morning, afternoon and evening. While the dates for the various papers will be decided later, they will be divided almost equally between the first and second days (Tuesday and Wednesday).

Every effort will be made to accommodate registrants speedily during the morning of the first day, and as far as possible a full attendance is sought for the morning meeting the first day. The papers will be so correlated for each of the five sessions as to promote discussion.

Following is the program outlined:

"Theory and Practice of Rectification in Natural Gasoline Plants," L. S. Gregory, consulting engineer.

"Volatility of Natural Gasoline," G. G. Oberfell, director of research, Phillips Petroleum Co.

"Gas Lift and Its Relation to the Natural Gasoline Industry," H. B. Bernard, vice president, Sinclair Oil & Gas Co.

"Second Progress Report of the Natural Gasoline Association of America," Dr. George Granger Brown.

"Importance of Gas and Gasoline Analysis to the Natural Gasoline Industry." California members to name author.

"Theory and Practice of Automatic control," T. G. Laney, research engineer, Fisher Governor Co.

"Methods in Marketing," W. T. Anderson, associate editor, The Oil and Gas Journal.

"Some Considerations Affecting the Butane Supply," S. C. Carney, Roxana Petroleum Corp.

Field Trip

On the third day an inspection trip will be made to the Seminole Field, and this part of the program will no doubt prove of interest to many members who live outside Oklahoma and have not seen the developments that have taken place there over the last year. The application of the gas lift can be seen in full operation, and this phase of the program will not only appeal to natural gasoline operators but those associated with production, as well. Transportation will be provided and it will not be necessary to take more than one day for the complete trip.

While the usual first night smoker has been replaced by the evening business session, the second night will be given over to the regular banquet. Details of this feature of the program will be announced later.

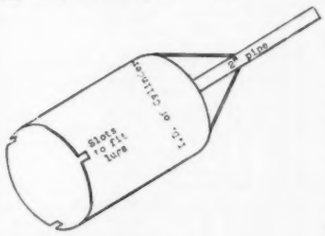
In the past, the associated members, equipment companies and other affiliated with the industry have contributed to the entertainment and carried a major share of the expense involved in the cost of the noon lunches, smoker and part of the banquet. This year an association is being perfected which will be known as the Natural Gasoline Supply Men's Association, composed entirely of associate members, equipment manufacturers and others affiliated with the industry. The function of the association is to handle the entertainment for the convention as an organization. The constitution and by-laws have been written up and have been approved, these providing that the president of the Natural Gasoline Association also serve as a director in the Natural Gasoline Supply Men's Association and that the secretary of the larger association also serve as secretary to the supply men's association.

A Practical Suggestion

REMOVING PISTONS

All gasoline plant engineers are familiar with the troubles encountered in removing pistons in large engines where a pipe wrench is used, and doubtless there are very few who have not experienced running steel needles in their fingers when the rod becomes chewed or severely bumping their knuckles on the case of the engine when the wrench slipped.

There are several ways to eliminate this grief, the simplest being to tap and thread two holes in the face of the piston near the lugs where there is considerable metal. Then after loosening the nuts on piston rod, two bolts are inserted in the tapped holes; a bar is placed between the bolts and the piston thereby rotated until completely loose from crosshead. An ordinary 16-inch piston would require about three-quarters-inch bolts and the holes drilled about 1 inch deep.



PISTON WRENCH

Some of the newer types of engines are made with grooves and a hook wrench is provided which enables the piston to be turned without any false motion.

A satisfactory wrench can be made of pipe by welding. It is simply a piece of casing that will fit into the cylinder, carrying slots which are the width of the lugs on the piston head and having a 2-inch pipe on the end to which a pipe wrench is attached for turning. For example, in one type of engine in general field use and with the 70 to 90-horsepower size there would be three slots 1½ inches wide, the casing would be about 20 inches long and of a diameter to fit inside the cylinder. The procedure is to loosen the nuts on the piston rod, remove the cylinder head and insert the wrench in the cylinder so that the lugs of piston fit into slots of casing; then turn tool with pipe wrench until piston rod is disengaged from crosshead.

FOR PLANT OPERATORS

Plant superintendents, engineers, chemists and everyone connected with the practical phases of plant construction and operation are invited to contribute to the new feature, "A Practical Suggestion." As indicated by the general subject, the purpose of the feature is to give the natural gasoline industry the benefit of ideas worked out in the construction and operation of plants which have practical value.

The design of inexpensive equipment, salvaging of old materials, and new methods in handling certain phases of operation are among the ideas which would be acceptable as suggestions. Although no limit is established as to the length of the suggestions, brief descriptions are preferred. The articles may be written in longhand. Rough sketches are acceptable if they are needed to illustrate the article.

Payment will be made for these suggestions as soon as they are accepted. Unless otherwise requested, names of contributors and the companies with which they are connected will not be published. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.

NEW COMPRESSOR PLANT IN LITTLE RIVER POOL

The natural gasoline department of the Sinclair Oil & Gas Co. during the past week started operating a compressor plant in the Little River Pool of the Greater Seminole area. The plant is located on the company's Cosar lease in NW NW Section 36-8-6. The plant will furnish the pressure necessary to operate the Sinclair wells by the gas lift. The natural gasoline output will be approximately 10,000 gallons daily.

GASOLINE PRODUCTION IN ROCKY MOUNTAINS

While the production of natural gasoline in the Rocky Mountain area is comparatively small, it is showing a healthy growth and satisfies the refinery needs in that section. During 1927, slightly over 45,900,000 gallons were made as against 41,900,000 gallons in 1926.

The great bulk of this production comes from Wyoming. Of the total capacity of 149,400 gallons for the area, 140,400 gallons of it is located in Wyoming. The Salt Creek Field supplies the greater share of the gas, and several large plants are located there.

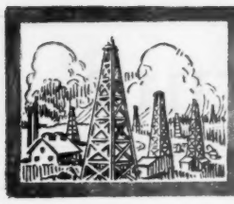
The Midwest Refining Co. has a 15,000-gallon plant located in this field and the Carter Oil Co. has a 15,000-gallon plant. Outside of Wyoming, only a few scattered plants are now operating. One of these, a 6,000-gallon plant, is located at Artesia, N. M., and is operated by the Phillips Petroleum Co.

Another plant has been recently built in Colorado. While there are several oil producing fields in Montana, there are no gasoline plants operating there.

These facts coupled with the relatively high cost of transportation has worked to the disadvantage of the development of manufacturing natural gasoline in these fields to date.

Production of Natural Gasoline
(Millions of Gallons)

	Rocky Mountain Area	United States	Per cent of Total
1927	45.9	1,627.6	2.82
1926	41.9	1,356.8	3.08



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	Mar. 27		Mar. 20		Mar. 13	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.05¾	.06	.05¾	.06	.05¾	
56-58 450 endpoint	.05¾	.06	.05¾	.06	.05¾	
58-60 450 endpoint	.05⅞	.06⅛	.05¾	.06	.05¾	.05⅝
*58-60 437 endpoint (U. S. Motor)	.06490		.06417		.06268	
*60-62 437 endpoint	.06375		.06653		.06619	
*60-62 400 endpoint	.06807		.06900		.06875	
*64-66 375 endpoint	.07214		.07125		.07250	
68-70 360 endpoint	.07¼		.07¼		.07¼	
64-66 437 endpoint (blend)	.06¼	.06⅜	.06¼	.06⅜	.06¼	
KANSAS—						
58-60 437 endpoint (U. S. Motor)	.06½	.06⅝	.06⅜	.06⅝	.06¼	.06½
NORTH TEXAS—						
56-58 450 endpoint	.05¾	.05⅞	.05¾	.05⅞	.05⅝	.05¾
58-60 450 endpoint	.05¾	.05⅞	.05¾	.05⅞	.05⅝	.05¾
58-60 437 endpoint (U. S. Motor)	.06⅛	.06¼	.06⅛	.06¼	.06⅛	
60-62 400 endpoint	.06½		.06½		.06½	
64-66 390 endpoint	.06⅝		.06⅝		.06⅝	
64-66 375 endpoint	.06¾		.06¾		.06¾	
68-70 360 endpoint	.07	.07⅛	.07	.07⅛	.07	.07⅛
64-66 437 endpoint (blend)	.06⅛	.06¼	.06⅛	.06¼	.06⅛	
NORTH LOUISIANA—						
58-60 437 endpoint (U. S. Motor)	.06¾		.06½	.06¾	.06½	.06¾
ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.06¾		.06½		.06½	
PENNSYLVANIA—						
52-54 Naphtha	.07¾	.08	.07¾	.08	.07¾	.08
54-56 Naphtha	.07¾	.08	.07¾	.08	.07¾	.08
58-60 Gasoline	.08¼	.08⅜	.08	.08¼	.08	.08¼
60 Gasoline	.08½	.08¾	.08¼	.08¾	.08½	.08¾
62 Gasoline	.08¾	.09	.08¾	.09	.08¾	.09
64 Gasoline	.09¼	.09½	.09¼	.09½	.09	.09¼
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.09	.09½	.08½	.09	.08	.08½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.05¾	.06	.05¾		.05⅝	.05¾
56-58 450 endpoint	.05¾	.06	.05¾	.06	.05¾	.05⅞
58-60 437 endpoint (U. S. Motor)	.06⅜	.06½	.06¼	.06⅜	.06¼	.06⅜
60-62 400 endpoint	.06⅝	.06¾	.06⅝		.06½	.06⅝
64-66 375 endpoint	.07	.07⅛	.07	.07⅛	.07	.07⅛
68-70 360 endpoint	.07¼	.07⅜	.07¼	.07⅜	.07¼	.07⅜
64-66 437 endpoint (blend)	.06¼	.06½	.06¼	.06⅜	.06¼	.06⅜

NATURAL GASOLINE

	Mar. 27		Mar. 20		Mar. 13	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.04½		.04¾		.05	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04¼	.04½	.04⅝	.04¾	.04⅞	.05
Grade B, 76-83.9, 375 e.p., rec. 85%	.04		.04		.04	.04⅛
Grade BB, 84-92, 375 e.p., rec. 85%	.03¾		.03¾	.03⅞	.04	
Grade C, 80-92, 375 e.p., rec. 78%	.03¼	.03½	.03½		.03¾	.03⅞
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.04½	.04⅝	.04⅞	.05	.05	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04¼	.04½	.04¾	.04⅞	.04⅞	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04	.04⅛	.04	.04⅛	.04	.04⅛
Grade BB, 84-92, 375 e.p., rec. 85%	.03¾	.03⅞	.04		.04	
Grade C, 80-92, 375 e.p., rec. 78%	.03¼	.03½	.03⅝		.03¾	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.04½		.05		.05¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¼		.04⅞	.05	.04¼	
Grade C, 80-92, 375 e.p., rec. 78%	.03½	.03¾	.03¾		.04	.04⅛
CALIFORNIA—						
75-85, 375-390 endpoint	.07¾	.08¾	.07½	.08½	.07½	.08½
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.04½		.04¾		.05	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.04¼	.04½	.04⅝	.04¾	.04⅞	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04		.04		.04	.04⅛
Grade BB, 84-92, 375 e.p., rec. 85%	.03¾		.04		.04	
Grade C, 80-90, 375 e.p., rec. 78%	.03¼	.03½	.03½		.03¾	.03⅞

BURNING OIL

	Mar. 27		Mar. 20		Mar. 13	
KANSAS—						
41-43 water white Kerosene	.04½	.04⅝	.04½	.04⅝	.04½	.04⅝
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04⅜	.04½	.04¼	.04½	.04¼	.04½
42-44 water white Kerosene	.04¾	.04⅞	.04¾	.04⅞	.04¾	.04⅞
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04¾	.05	.04¾	.05	.04¾	.05
NORTH TEXAS—						
41-43 water white Kerosene	.04¼	.04⅝	.04¼	.04⅝	.04¼	.04⅝
40-42 water white Kerosene	.04⅛	.04¼	.04⅛	.04¼	.04⅛	.04¼
ARKANSAS—						
41-43 water white Kerosene	.04¾	.05	.04¾	.05	.04¾	.05
PENNSYLVANIA—						
43 Kerosene prime white	.05¾	.06	.05¾	.06	.05¾	.06
45 Kerosene water white	.06	.06¼	.06	.06¼	.06	.06¼
46 Kerosene water white	.06¼	.06½	.06¼	.06½	.06¼	.06½
47 Kerosene water white	.06½	.06¾	.06¾	.06⅞	.06¾	.06⅞
300 Mineral Seal	.07	.07¼	.07	.07¼	.07	.07¼
CALIFORNIA—						
38-40 water white Kero. (high-burning test)	.05½	.06	.05½	.06	.05½	.06
Engine distillate, 43-45, 445 endpoint	.07	.07½	.07	.07½	.06½	.07
Engine distillate, 42-44, 480 endpoint	.06½	.07	.06½	.07	.06¼	.06¾
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.04¾	.04½	.04¼	.04½	.04¾	.04½
42-44 water white Kerosene	.04¾	.04⅞	.04¾	.04⅞	.04¾	

FUEL OILS

	Mar. 27		Mar. 20		Mar. 13	
KANSAS—						
18-20 Fuel Oil, per bbl.	.85	.87½	.85	.87½	.85	.87½
22-26 Fuel Oil, per bbl.	.90		.90		.90	
32-36 Gas Oil	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
38-40 Distillate	.03⅛		.03⅛		.03⅛	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil, per bbl.	.77½	.80	.77½	.80	.77½	.80
18-22 Fuel Oil, per bbl.	.82½	.85	.82½	.85	.82½	.85
22-26 Fuel Oil, per bbl.	.85		.85		.85	
24-26 Fuel Oil, per bbl.	.85	.87½	.85	.87½	.85	.87½
26-30 Fuel Oil, per bbl.	.87½	.90	.87½	.90	.87½	.90
28-30 Fuel Oil, per bbl.	.92½	.97½	.92½		.92½	
32-36 Gas Oil (dark)	.02½		.02½		.02½	
32-36 Gas Oil (straw distillate)	.02⅝		.02⅝		.02⅝	
36-38 Distillate	.03		.03		.03	
38-40 Straw Distillate	.03	.03⅛	.03	.03⅛	.03	.03¼
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars) per bbl.	.75	.80	.75	.80	.75	.80
32-36 Gas Oil (straw)	.02⅜		.02⅜		.02⅜	
38-40 Straw Distillate	.03		.03		.03	
NORTH LOUISIANA—						
18-20 Fuel Oil, per bbl.	.97½	1.00	.97½	1.00	.97½	1.00
32-36 Gas Oil	.02¾	.03	.03	.03¼	.03	.03¼
ARKANSAS—						
33-36 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03¾
32-36 Gas Oil (straw)	.02¾		.02¾		.02¾	
16-22 Refinery Fuel Oil, per bbl.	.85	.90	.85	.90	.85	.90
GULF COAST (South Texas)—						
Gas Oil	.04¼	.04½	.04¼	.04½	.04¼	.04½
Fuel Oil, per bbl.	1.15	1.20	1.15	1.20	1.20	1.25
PENNSYLVANIA—						
30-34 Fuel Oil	.04⅞	.05¼	.04⅞	.05¼	.04¾	.05
36-40 Fuel Oil	.05	.05¼	.05	.05¼	.05	.05¼
CALIFORNIA—						
33-36 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03¾
27-32 Distillate	.02½	.03	.02½	.03	.02½	.03
*15-20 Fuel Oil, Bunker (at tide water)	.85	1.00	.85	1.00	.85	1.00
15-20 Fuel Oil (cargo lots), per bbl.	.75	.85	.75	.85	.75	.85
27 plus Diesel, per bbl.	1.15	1.19	11.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3,*bbl.	.85	.90	.85	.90	.85	.90
22-26 Fuel Oil (sellers' cars) Group 3, bbl.	.85		.85	.87½	.85	.87½
18-22 (Group 3), per bbl.	.82½	.85	.82½	.85	.82½	.85
16-20 Smackover, per bbl.	.90	.92½	.90	.92½	.90	.92½
32-36 Gas Oil (zero)	.02¾	.03	.02¾	.02⅞	.02¾	.02⅞
32-36 Gas Oil (industrial)	.02½	.02⅝	.02½	.02⅝	.02½	.02⅝
36-38 Distillate	.03	.03⅛	.03	.03⅛	.03	.03⅛
38-40 Straw Distillate	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼

*Bunkers.

LUBRICATING OIL AND WAX

	Mar. 27		Mar. 20		Mar. 13	
OKLAHOMA (Group 3—						
100 vis., 2 color, 20-25 cold test	.06¼	.06½	.06¼	.06½	.06¼	.06¼
100 vis., 3 color, 20-25 cold test	.06	.06¼	.06	.06¼	.06	.06¼
150 vis., 3 color, 20-25 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
150 vis., 4 color, 20-25 cold test	.08	.08¼	.08	.08¼	.08	.08¼
180 vis., 3 color, 23-28 co'd test	.09⅜	.10	.09⅜	.10	.09⅜	.10
180 vis., 4 color, 23-28 cold test	.09¼	.09¾	.09¼	.09¾	.09¼	.09⅜
180 vis., 5 color, 23-28 cold test	.09⅛	.09½	.09⅛	.09½	.09⅛	.09½
200 vis., 3 color, 23-28 cold test	.09½	.10½	.09½	.10½	.09½	.10½
200 vis., 4 color, 23-28 cold test	.09⅜	.10¼	.09⅜	.10¼	.09⅜	.10¼
200 vis., 5 color, 23-28 cold test	.09¼	.10	.09¼	.10	.09¼	.10
240 vis., 3 color, 25-30 co'd test	.13⅜	.14	.13⅜	.14	.13⅜	.14
240 vis., 4 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 5 color, 25-30 cold test	.12¼	.12½	.12¼	.12½	.12¼	.12½
280 vis., 3 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 4 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
280 vis., 5 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
Cylinder Stocks:						
600, steam refined, light green	.08	.09	.08	.09	.08	.09
600, steam refined, dark green	.06¼	.06¾	.06¼	.06¾	.06¼	.06¾
190-200 vis. @ 210 Bright Stock	.30	.32	.30	.32	.30	.32
150-160 vis. @ 210 Bright Stock	.22	.24	.22	.24	.22	.24
Waxes:						
124-126 White Crude Scale Wax	.03¼		.03⅛	.03¼	.03	.03⅛
PENNSYLVANIA—						
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundebloom	.07¾	.08	.07¾	.08	.07¾	.08
36 Miners' Neutral	.06½	.06¾	.06½	.06¾	.06½	.06¾
150, 3 color	.27	.27½	.27	.27½	.27	.27½
180, 3 color	.30½	.31	.30½	.31	.30½	.31
200, 3 color	.33	.33½	.33	.33½	.33	.33½
220, 3 color	.34½	.35	.34½	.35	.35	.35½
600, steam refined	.09¼	.09½	.09¼	.09½	.09¼	.09¼
635, steam refined	.10¼	.10½	.10¼	.10½	.10¼	.10½
650, steam refined	.11	.11½	.11½	.12	.11½	.12
600, Pennsylvania flash	.14	.15	.14	.15	.15	.16
*550, E filtered	.14½	.15	.14½	.15	.15½	.15¾
*600 E filtered	.15½	.15¾	.15½	.15¾	.15½	.16
600, E filtered	.14¾	.15¼	.14¾	.15¼	.15¼	.15¾
600, D filtered	.22	.23	.22	.23	.23½	.24
550, E filtered	.15½	.16	.15½	.16	.15½	.16
550, D filtered	.21½	.22	.21½	.22	.21½	.22
Pennsylvania Bright Stock	.26½	.27	.26½	.27	.27	.27½
†122-124 White Crude Scale Wax	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
124-126 White Crude Scale Wax	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.07½	.08	.07½	.08	.07½	.08
No. 3 color, 200 vis., pale oil	.07½	.08½	.07½	.08½	.07½	.08½
No. 3 color, 300 vis., pale oil	.08½	.09½	.08½	.09½	.08½	.09½
No. 3½ color, 500 vis., pale oil	.12	.13	.12	.13	.12	.13
No. 4 color, 750 vis., pale oil	.14	.15	.14	.15	.14	.15
No. 5 to 6 color, 200 vis., red oil	.07½	.08	.07½	.08	.07½	.08
No. 5 to 6 color, 300 vis., red oil	.08½	.09	.08½	.09	.08½	.09
No. 5 to 6 color, 500 vis., red oil	.09½	.10½	.09½	.10½	.09½	.10½
No. 5 to 6 color, 750 vis., red oil	.12	.12½	.12	.12½	.12	.12½
No. 2½ color, 200 vis., pale filtered	.11½	.12	.11½	.12	.11½	.12
No. 2½ color, 300 vis., pale filtered	.13	.13½	.13	.13½	.13	.13½
No. 2½ color, 500 vis., pale filtered	.14	.15	.14	.15	.14	.15
No. 2½-3 color, 750 vis., pale filtered	.17½	.19	.17½	.19	.17½	.19

*At Warren, Pa. †At New York.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

CALIFORNIA—						
130 vis., 2½-3 color	.09	.10	.09	.10	.09	.10
200 vis., 2½-3 color	.10	.10½	.10	.10½	.10	.10½
300 vis., 3-3½ color	.10½	.11	.10½	.11	.10½	.11
350 vis., 3½-4 color	.11	.12	.11	.12	.11	.12
400 vis., 3½-4 color	.13	.14	.13	.14	.13	.14
Red Neutral:						
200 vis., 4½-5 color	.08½	.09	.08½	.09	.08½	.09
300 vis., 5-6 color	.09	.10	.09	.10	.09	.09½
400 vis., 5-6 color	.10½	.11	.10½	.11	.11	.11½
500 vis., 4½-5 color	.11½	.12	.11½	.12	.11½	.12
500 vis., 5-6½ color	.11	.11½	.11	.11½	.11	.11½
600 vis., 6 plus color	.12½	.13	.12½	.13	.12	.12½

Note: Bright Stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Mar. 27	Mar. 20	Mar. 13
Gasoline, U. S. Motor, 58-60 437	.08¾	.08¾	08¼
Kerosene, water white, 41-43	.07½	.07½	.07½
*Fuel Oil, bunker "C," 14-16, per bbl.	1.35	1.35	1.35
*Fuel Oil, Diesel, 28-30, per bbl.	2.00	2.00	2.00
Gas oil, 28 plus	.05¼	.05¼	.05¼
25 pale Paraffin Oil	.12	.12	.12
28 pale Paraffin Oil	.07	.07	.07
285 red Paraffin Oil	.11½	.11½	.11½
250 red Paraffin Oil	.10½	.10½	.10½
225 red Paraffin Oil	.09½	.09½	.09½
200 red Paraffin Oil	.09	.09	.09
Refined Wax:			
120-122 a.m.p., per lb.	.04	.04	.04
125-127 a.m.p., per lb.	.04¼	.04¼	.04¼
130-132 a.m.p., per lb.	.04¾	.04¾	.04¾
135-137 a.m.p., per lb.	.05½	.05½	.05½
Petrolatum, in bbls., carload lots, per lb.:			
Dark green	.02	.02	.02
Amber	.03¾	.03¾	.03⅝
Extra amber	.03¾	.03¾	.03¾
Cream	.06½	.06½	.06½
Lily White	.08⅜	.08⅜	.08⅜
Snow White	.09⅜	.09⅜	.09⅜

*Lighterage, 6.5c a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Mar. 27	Mar. 20	Mar. 13
Gasoline, U. S. Motor, 58-60 437, in cases	.2465	.2465	.2390
Kerosene, standard white, in cases	.1690	.1690	.1690
Kerosene, water white, in cases	.1790	.1790	.1790
600, steam refined cylinder stock, in bbls.	.17	.17	.17
635, steam refined	.19	.19	.19
650, steam refined	.20	.20	.20
600, Pennsylvania flash	.23	.23	.23
630, Pennsylvania flash	.35	.35	.35
600, Warren E	.25	.25	.25
600, Oil City E	.24	.24	.24
Light 135 Bright Stock	.40	.40	.40
Dark 135 Bright Stock	.38	.38	.38

LOS ANGELES EXPORT PRICES

	Mar. 27		Mar. 20		Mar. 13	
Kerosene, water white	.05	.05¼	.05	.05¼	.04¾	.05
U. S. Motor Gasoline, 53-55 437 e.p.	.06¼	.06½	.06¼	.06½	.06¼	.06½

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

*Corsicana heavy (March 14, 1927) $1.00
Other fields ..... See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE
Carson and Hutchinson

Below 31 gravity	$ .60
31-31.9	.65
32-32.9	.70
33-33.9	.73
34-34.9	.76
35-35.9	.79
36-36.9	.82
37-37.9	.85
38-38.9	.88
39-39.9	.91
40-40.9	.94
41-41.9	.97
42-42.9	1.00
43-43.9	1.03
44 and above	1.06

Wheeler County

Below 29 gravity	$ .60
29-29.9	.65
30-30.9	.70
31-31.9	.75
32-32.9	.80
33-33.9	.83
34-34.9	.86
35-35.9	.89
36-36.9	.92
37-37.9	.95
38-38.9	.98
39-39.9	1.01
40-40.9	1.04
41-41.9	1.07
42-42.9	1.10
43-43.9	1.13
44 and above	1.16
Gray County	See gravity table

Humble Oil & Refining Co. Magnolia Petroleum Co. February 21.

*Iatan	Same as North Texas
Crane-Upton-Crockett	See gravity table
†Glasscock	.60
†Chalk	.80

*Includes Howard County and Westbrook Fields. Marland Refining Co. pays $1.05 for Howard County crude, effective May 21.
†Magnolia Petroleum Co., Jan. 14, 1928.

ARKANSAS-NORTH LOUISIANA

Cotton Valley (Feb. 7, 1928)	$ .75
Bellevue (Feb. 24, 1927)	1.20
Urania (Nov. 18, 1927)	.75
East El Dorado (March 16, 1927)	1.00
Other fields	See gravity table

Note—Cotton Valley and Bellevue, Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co. and Magnolia Petroleum Co.; (Magnolia Petroleum Co. posted Cotton Valley February 8); Urania, Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co., Gulf Refining Co.

GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop.)

‡Grade A (March 14)	$1.20
Grade B	See gravity table
*Jenninga, La. (March 14)	$1.05
†Saratoga, Batson, Daytona (March 14, 1927)	$1.20
‖Markham (March 14)	1.00

*Gulf Pipe Line Co. †Sun Pipe Line Co. ‡Humble Oil & Refining Co. and other major buyers. ‖The Texas Company.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

*Luling (May 5)	$1.00
†Mirando (March 14)	1.00
Rockdale-Minerva (April 15):	
Below 38 gravity	1.25
38-38.9 gravity	1.27
39-39.9 gravity	1.29
40 and above	1.31

(Continued on Page 178)

CRUDE OIL GRAVITY TABLE

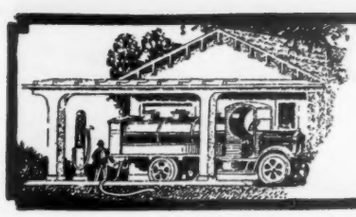
Gravity—	1 Okla., Kans. N. C. Tex.	2 No. La. and Arkansas	3 Smackover, Ark.	4 Stephens, Ark	5 Gray County (Texas Panhandle)	6 Crane, Upton, Crockett, Winkler Counties (West Texas)	7 Salt Creek, Wyo.	8 Grade B & Light Crude (G. Coast)	9 Somerset (South Central Texas)
24 and above	....	....	.90	....	....	....	....	....	....
Below 24	.76	....	.75	....	....	....	....	....	....
Below 25	....	....	....	....	....	....	....	1.15	....
24 to 24.9	.76	....	....	....	....	....	....	....	....
25 to 25.9	.81	....	....	....	....	....	....	....	....
Below 26	....	....	....	....	.60	.60	....	....	....
26 to 26.9	.86	....	....	....	.60	.60	....	1.19	....
27 to 27.9	.91	....	....	....	.65	.60	....	1.21	....
Below 28	....	.91	....	.85	....	....	....	....	....
28 to 28.9	.96	.96	....	.87	.70	.60	....	1.23	....
29 to 29.9	1.01	1.01	....	.89	.75	.60	1.01	1.25	....
30 to 30.9	1.06	1.06	....	.91	.80	.60	1.06	1.27	....
31 to 31.9	1.11	1.11	....	.93	.85	.60	1.11	1.29	....
32 to 32.9	1.16	1.16	....	.95	.90	.60	1.16	1.31	1.05
33 to 33.9	1.19	1.19	....	....	.93	.60	1.19	1.33	1.07
34 to 34.9	1.22	1.22	....	....	.96	.60	1.22	1.35	1.09
35 to 35.9	1.25	1.25	....	....	.99	.60	1.25	1.37	1.11
36 to 36.9	1.28	1.28	....	....	1.02	.60	1.28	....	1.13
37 to 37.9	1.31	1.31	....	....	1.05	....	1.31	....	1.15
38 to 38.9	1.34	1.34	....	....	1.08	....	....	....	1.17
39 to 39.9	1.37	1.37	....	....	1.11	....	....	....	....
40 to 40.9	1.40	1.40	....	....	1.14	....	....	....	....
41 to 41.9	1.43	1.43	....	....	1.17	....	....	....	....
42 to 42.9	1.46	1.46	....	....	1.20	....	....	....	....
43 to 43.9	1.49	1.49	....	....	1.23	....	....	....	....
44 to 44.9	1.52	1.52	....	....	1.26	....	....	....	....
45 to 45.9	1.55	1.55	....	....	....	....	....	....	....
46 to 46.9	1.58	1.58	....	....	....	....	....	....	....
47 to 47.9	1.61	1.61	....	....	....	....	....	....	....
48 to 48.9	1.64	1.64	....	....	....	....	....	....	....
49 to 49.9	1.67	1.67	....	....	....	....	....	....	....
50 to 50.9	1.70	1.70	....	....	....	....	....	....	....
51 to 51.9	1.73	1.73	....	....	....	....	....	....	....
52 and above	1.76	1.76	....	....	....	....	....	....	....

Column 1—Magnolia Petroleum Co. posted schedule February 21, 1928, making price below 30 gravity $.75 per barrel, 30-30.9 gravity $.90 and 31-31.9 gravity $1.05, with 3 cents increase per degree higher in gravity, taking 32-32.9 gravity at $1.16 as basis, with a top price of $1.76 for 52 and above.
Humble Oil Refining Co. posted $1.52 on all oil 44 gravity and above.
Oklahoma—Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., Carter Oil Co., The Texas Company, February 21.
North Central Texas—[Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas), Iatan and Panola (Magnolia only. Iatan posted a flat price of $.93 by Magnolia on January 14, 1928). Currie, Nocona, Moran and Corsicana light]; Texas, Prairie, Sinclair and Gulf; The Texas Company, Humble Oil & Refining Co., February 21.
Kansas—Prairie, Sinclair; Carter, The Texas Company, February 21.
Column 2—Arkansas and North Louisiana—[Caddo, Bull Bayou, Crichton, De Soto, Haynesville, Homer and El Dorado only]; Standard Oil Co. of Louisiana, Texas Pipe Line Co., Louisiana Oil Refining Co., February 21 and Magnolia Petroleum Co. February 23.
Column 3—February 6, Louisiana Oil Refining Co. February 7, Standard Oil Co. of Louisiana, The Texas Company, Gulf Refining Co., Magnolia Petroleum Co. February 8, and Atlantic Production Co. February 10.
Column 4—Atlantic Oil Producing Co., Louisiana Oil Refining Corp., The Texas Company, February 22.
Column 5—Humble Oil & Refining Co., Magnolia Petroleum Co., February 21.
Column 6—Humble Oil & Refining Co., August 23; Marland Refining Co., Magnolia Petroleum Co., and Gulf Pipe Line Co., August 24.
Column 7—Midwest Refining Co., February 21. All crude over 37 gravity, $1.31 per barrel.
Column 8—Humble Oil & Refining Co. and other major buyers (schedule ends "35 and above"), March 14, with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. posted 2 cents differential for each degree above 35 gravity and $1.47 for 40 gravity and above.
Column 9—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

CALIFORNIA CRUDE OIL PRICES
Standard Oil Co.-Union Oil Co. (Effective April 1, 1927)*

Gravity—	1 Fullerton, Seal Beach, Long Beach, Huntington Beach, Richfield, Rosecrans-Dominguez, Torrance-Inglewood	2 Whittier, La Habra, Montebello	3 Kern River, Newhall-McKittrick, Midway-Sunset, Elk Hills, Long Hills, Belridge, Buena Vista Hills	4 Coyote	5 Santa Fe Springs	6 Coalinga	7 Wheeler Ridge	8 Santa Maria, Ventura, Orcutt, Salt Lake
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.85	.85	.75	.85	....	.75	.75	.85
16°	.85	.85	.75	.85	....	.75	.75	.85
17°	.85	.85	.75	.85	....	.75	.75	.85
18°	.85	.85	.75	.85	....	.75	.75	.85
19°	.85	.85	.75	.85	....	.75	.75	.85
20°	.85	.85	.77	.85	....	.76	.76	.85
21°	.86	.85	.79	.86	.85	.77	.77	.85
22°	.87	.85	.81	.87	.85	.78	.78	.85
23°	.88	.85	.83	.88	.85	.79	.79	.85
24°	.89	.85	.85	.89	.85	.80	.80	.85
25°	.90	.86	.87	.90	.86	.81	.81	.86
26°	.92	.87	.89	.91	.87	.83	.82	.87
27°	.94	.88	.91	.92	.88	.85	.84	.88
28°	.96	.89	.93	.93	.89	.87	....	.89
29°	.98	.90	.96	.94	.91	.89	....	.91
30°	1.00	.91	.96	.95	.93	.91	....	.93
31°	1.03	....	1.02	....	.95	.93	....	.95
32°	1.06	....	1.05	....	.97	.95	....	.97
33°	1.09	....	1.08	....	.99	.97	....	.99
34°	1.12	....	1.11	....	1.01	.99	....	1.01
35°	1.15	....	....	....	1.03	1.01	....	1.03
36°	1.18	....	....	....	1.06	....	....	1.06
37°	1.21	....	....	....	1.09	....	....	1.09
38°	1.24	....	....	....	1.12	....	....	1.12
39°	1.27	....	....	....	1.15	....	....	1.15
40°	1.30	....	....	....	....	....	....	....
41°	1.33	....	....	....	....	....	....	....
42°	1.36	....	....	....	....	....	....	....

*Column 1—Long Beach, Seal Beach and Huntington Beach crudes, 14 to 22 degrees, inclusive; Richfield and Fullerton, 14 to 30 degrees; Torrance and Inglewood, 14 to 28 degree; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.
Column 2—Whittier crude, 14 to 22 degrees; Montebello, 14 to 30 degrees.
Column 3—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset, Buena Vista and Elk Hills, 14 to 23 degrees; Lost Hills and Belridge, 14 to 34 degrees.
Column 8—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura and Orcutt, 14 to 39 degrees. Posted by Union Oil Co.



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns March 27.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago dist. ..	14.0	16.0	...	12.0
Decatur, Ill. ..	13.5	15.5	...	12.1
E. St. Louis ...	13.1	15.35	...	11.2
Joliet	14.4	16.4	...	12.3
Peoria	14.2	16.2	...	12.1
Quincy	14.2	16.2	...	11.9
Davenport, Ia..	17.5	19.5	3.0	12.3
Des Moines ...	15.9	17.9	3.0	12.3
Keokuk	17.5	19.5	3.0	12.3
Sioux City	17.1	19.1	3.0	11.9
Duluth, Minn. .	16.5	17.5	2.0	12.9
Minneapolis ...	16.0	18.0	2.0	12 9
Mankato	14.1	16.1	2.0	12.7
La Crosse, Wis.	17.2	19.2	2.0	13.0
Milwaukee	16.1	18.1	2.0	11.9
Madison	16.3	18.3	2.0	12.1
Detroit, Mich. .	17.8	19.8	3.0	13.7
Grand Rapids .	17.7	19.7	3.0	13.6
Saginaw	17.9	19.9	3.0	13.8
Evansville, Ind.	17.0	19.0	3.0	13.0
Ft. Wayne	16.4	17.4	3.0	13.4
Indianapolis ...	17.2	19.2	3.0	12.2
South Bend	17.4	19.4	3.0	13.4
Fargo, N. D. ..	18.9	20.9	2.0	14.9
Huron, S. D. ..	19.5	21.5	4.0	13.9
Sioux Falls ...	20.0	24.0	4.0	13.4
*K. C., Mo.	14.9	16.9	3.0	10.6
*Springfield	16.8	18.8	3.0	11.5
*St. Louis	15.6	17.9	2.5	11.3
*St. Joseph	14.5	16.5	3.0	11.2
Wichita, Kans..	14.8	16.8	2.0	10.8
Bartlesville, Ok.	15.5	17.5	3.0	10.5

NAPHTHAS

	Tank wagon	Tank car
Oleum spirits	14.7	9.5
V. M. & P. naphtha	16.2	11.0
Cleaner's naphtha	18.0	12.0
Stanisol	19.0	12.5

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 799 gallons	8.0
800 or more gallons	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

Tank wagon prices of gasoline subject to discount of 1 cent a gallon on dumps of 50 gallons or more throughout territory except Chicago district where discount applies only to dumps of 100 gallons. Kerosene subject to 1 cent discount on dumps of 50 gallons or more.

Outside the Chicago district, the following quantity discount schedule is in effect on monthly tank wagon deliveries of gasoline: 6,000 gallons or more, 1½ cents; 10,000 gallons or more, 2 cents; 15,000 gallons or more, 3 cents. These discounts include the 1 cent allowed on dumps of 50 gallons or more at one delivery.

Within the Chicago district, the following quantity discount schedule is in effect on tank wagon deliveries of gasoline: 750 to 2,000 gallons, one-half cent; 2,000 to 3,000 gallons, three-fourths cent; 3,000 to 6,000 gallons, 1 cent; 6,000 to 10,000 gallons, 1½ cents; 10,000 to 15,000 gallons, 2 cents; 15,000 gallons or more, 3 cents. These discounts are in addition to the special discount of 1 cent on dumps of 100 gallons or more at one delivery.

If the quantity bought during the year is equal to or exceeds 12 times the agreed monthly quantity, the discount is paid or credited on the entire quantity at the close of the term less the monthly payments made during the year.

*State tax 2 cents; remainder city tax.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
All Ohio points	17.0	19.0	3.0	14.5

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.*

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex. ...	13.0	17.0	3.0	11.0
Fort Worth ...	14.0	17.0	3.0	11.0
Houston	13.0	17.0	3.0	11.0
San Antonio ..	14.0	17.0	3.0	10.0
El Paso	15.0	18.0	3.0	16.0
Texarkana	16.0	20.0	3.0	12.0
Muskogee, Ok..	16.0	17.0	3.0	11.0
Okla. City	15.0	16.0	3.0	11.0
Tulsa	15.0	16.0	3.0	11.0
Ft. Smith, Ark.	17.0	18.0	5.0	11.0
Little Rock ...	20.0	21.0	5.0	12.0

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, one-half cent; over 2,000 gallons, three-quarters cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cents; over 6,000 gallons, 1½ cents; over 8,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cen.; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons a month, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases in the tank wagon discounts.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
*N. Orleans, La.	15.5	18.5	3.0	14.0
Baton Rouge ..	14.0	17.0	2.0	12.5
Alexandria	15.0	18.0	2.0	14.0
LaFayette	15.0	18.0	2.0	13.5
Lake Charles .	15.5	18.5	2.0	14.0
Shreveport	16.5	18.5	2.0	13.0
Kn'xville, T'nn.	19.5	22.5	3.0	15.0
Memphis	17.0	18.5	3.0	14.0
Chattanooga ..	19.5	22.5	3.0	15.0
Nashville	18.0	21.0	3.0	15.0
Bristol	19.0	22.0	3.0	14.0
Lit. Rock, Ark.	20.0	21.0	5.0	12.0

*Tax of 3 cents includes city tax of 1 cent.
*Louisiana kerosene prices include 1-cent State tax and 1-cent parish tax.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga. ..	17.0	19.0	4.0	14.0
Augusta	19.0	23.0	4.0	16.5
Macon	16.0	19.0	4.0	13.5
Savannah	17.0	19.0	4.0	14.5
Birm'h'm, Ala..	18.0	21.0	4.0	14.5
Mobile	17.0	20.0	4.0	14.0
Montgomery ..	16.0	19.0	5.0	15.5
Clarks'le, Miss..	17.0	20.0	4.0	11.5
Jackson	17.0	20.0	4.0	11.5
Natchez	16.5	19.5	4.0	14.0
Gulfport	18.5	21.5	6.0	14.0
Vicksburg	16.5	19.5	4.0	14.0
Jack'ville, Fla..	18.0	21.0	5.0	11.5
Miami	20.0	23.0	5.0	14.5
Pensacola	19.0	22.0	5.0	13.0
Tampa	18.0	21.0	5.0	13.0
Lexington, Ky..	18.0	21.0	5.0	15.5
Covington	19.0	22.0	5.0	15.5
Louisville	18.0	21.0	5.0	15.0

In addition to the State tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline. Kerosene prices in Georgia includes 1 cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene only. Pensacola tax includes 1 cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to State tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	16.0	*22.0	...	13.0
Philadelphia ..	16.0	*22.0	...	13.0
Scranton	16.0	*22.0	...	13.0
Allentown	16.0	*22.0	...	13 0
Altoona	16 0	*22.0	...	13 0
Erie	12.0	*18 0	...	13 0
Dover, Del. ...	19.0	22.0	3.0	13.0
Wilmington ...	19.0	22.0	3.0	13.0
Spring'd, Mass..	18.0	18.0	...	15.0
Worcester	18.0	18.0	...	15.0
Boston	18.0	18.0	...	15.0
Providence, R.I.	20.0	20.0	3.0	15.0
Hartford, Conn.	20.0	20.0	2.0	14.0
New Haven ...	20.0	20.0	2.0	15.0

*Includes tax of 3.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y. .	17.0	19.0	...	15.0
*New York	17.0	19.0	...	15.0
Buffalo	15.0	18.0	...	14.0
Rochester	15.0	18.0	...	14.0
Syracuse	17.0	19.0	...	15.0
Boston, Mass. .	18.0	19.0	...	15.0
Augusta, Me. ..	21.0	23.0	4.0	15.0
M'nch't'r, N. H.	21.0	22.0	4.0	15.0
Burlington, Vt..	20.0	22.0	3.0	15.0

*Price in steel barrels.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	16.25	17.25	2.0	12.25
McCook	14.75	14.75	2.0	11.50
Norfolk	16.75	18.75	2.0	12.75
N. Platte	17.75	19.75	2.0	13.50
Scottsbluff	17.25	19.25	2.0	13.00

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
San Francisco .	17.0	21.0	3.0	15.5
Pueblo	13.0	15.0	3.0	15.5
Los Angeles ..	16.5	20.5	3.0	15.5
Reno, Nev.	22.0	26.0	4.0	19.0
Portland, Ore..	17.5	21.5	3.0	16.5
Seattle, Wash..	16.5	20.5	2.0	16.5
Tacoma	16.5	20.5	2.0	16.5
Spokane	20.5	24.5	2.0	20.5
Phoenix, Ariz..	23.0	27.0	4.0	20.5

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City .	18.0	20.0	2.0	14.0
Newark, N. J. .	18.0	20.0	2.0	14.0
Annapolis, Md..	20.0	23.0	4.0	12.0
Baltimore	20.0	23.0	4.0	10.0
Cumberland ...	20.0	23.0	4.0	14.0
Washington	18.0	21.0	2.0	12.0
Danville, Va. ..	21.0	....	5.0	14.0
Norfolk	21.0	24.0	5.0	12.0
Petersburg	21.0	24.0	5.0	14.0
Roanoke	21.0	24.0	5.0	14.0
Richmond	19.0	22.0	5.0	14.0
Ch'rlst'n, W.Va.	20.0	23.0	4.0	14.0
Keyser	20.0	23.0	4.0	14.0
Parkersburg ..	18.0	21.0	4.0	14.0
Wheeling	20.0	23.0	4.0	14.0
Charlotte, N. C.	20.0	23.0	4.0	14.0
Hickory	20.0	20.0	4.0	14.0
Mt. Airy	20.0	20.0	4.0	14.0
Salisbury	20.0	23.0	4.0	14.0
Charlst'n, S. C.	20.0	23.0	5.0	14.0
Columbia	20.0	23.0	5.0	14.0

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo. .	17 0	19 0	3.0	14.5
Pueblo	17 0	19.0	3.0	14.5
Grand Jct.	20.5	22.5	3.0	18.0
Casper, Wyo. ...	17.0	19.0	3.0	13.0
Cheyenne	18.0	20.0	3.0	14.5
Butte, Mont. ..	22.5	22.5	3.0	19.0
Helena	22 5	24.5	3.0	19.0
Salt L'ke, Utah	20.0	22.0	3.5	17.0
Anbu'que, N. M.	21.0	24.0	5.0	17.0
Boise, Idaho ..	23.5	25.5	4.0	19.0
Twin Falls	23.5	25.5	4.0	19.0

TANK WAGON CHANGES

March 21.—Continental Oil Co. advanced the gasoline station price 1 cent to 22 cents at Salt Lake City, Utah.

Atlantic Refining Co. increased the gasoline tank wagon and station prices 1 cent in Philadelphia, Pa., to 16 cents and 22 cents.

March 22.—Standard Oil Co. of New Jersey increased the gasoline tank wagon and station prices one-half cent throughout Virginia to equalize the increase in the state tax from 4.5 to 5 cents.

The gasoline tank wagon and station prices were increased 1 cent in Parkersburg, W. Va., to 18 cents and 21 cents.

CALIFORNIA MARKET PRICES TEND UPWARD

LOS ANGELES, Calif., Mar. 23.—The California tank car gasoline market continues to show strength. The demand among jobbers for local consumption has improved greatly. As a result, prices have been revised upward and are now firm at from 9-9½ cents per gallon. The retail situation is still deplorable. Cut price signs as low as 15 cents are being displayed at various independent service stations. It is expected, however, that with the decided improvement in the tank car market, these signs will necessarily be changed in the near future.

There has been a strong rumor circulating that gasoline will soon be increased 3 cents at the service station. Local marketers do not put much credence in the rumor, however, as such an increase at this time seems hardly likely. There is a belief that major companies who have been selling certain service stations at a 6-cent margin will reduce this margin to 4 cents, effective April 1. Such a move would undoubtedly correct a good proportion of the present unsettled retail condition.

The export demand for California gasoline continues good. This is especially true of the Australian market which is consuming a steadily increasing volume of California gasoline. Practically all of this trade gets both gasoline and kerosene in cases usually consisting of two 5 Imperial gallon cans. California oil men are forced to compete with oil coming from the Persian fields and also from Sumatra and Borneo, but in spite of this competition are able to continue to improve their sales in this market.

Natural gasoline continues to hold up well. During the past week this brand was quoted at from 7⅞-8¾ cents. One spot sale was actually made at the top price of 8¾ cents. While the natural gasoline market at present is satisfactory, it is not expected to improve and may weaken slightly before long.

Fuel oil is in the doldrums. This commodity has been weak for some time and as summer approaches the demand is becoming even less. There is some rumor that fuel oil prices are due to be reduced together with heavy crude.

OVERCOME BY FUMES

EL DORADO, Kans., Mar. 25.—John Belt, 39, and Roy Allen, 37, lost their lives when they were overcome by gas fumes in an oil tank west of here late yesterday.

CRUDE OIL PRICES

(Continued from Page 177)

*Thrall	....
Callihan (May 15)	1.71
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co. Thrall prices same as North Central Texas less 19½ cents per cwt. freight.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.
(Effective March 14)

Rock Creek, Wyo. (March 12)	$1.36
Salt Creek	See gravity table
Big Muddy (March 12)	$1.25
Mule Creek (May 1)	1.10
Grass Creek, heavy	.90
Grass Creek, light	1.32
Elk Basin (March 12)	1.33
Lance Creek (March 12)	1.33
Poison Spider	1.00
Notches	.61
Rex Lake (February 22)	1.10
Osage	1.33
Lost Soldier (contract)	.95
Greybull-Torchlight	1.33
Hamilton Dome	.81
Cat Creek (Mont.)	1.33
Sunburst (Mont.) (Jan. 25, 1928)	1.50
Artesia (March 12)	1.00
Hogback (N. Mex.) (March 14)	1.33

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES
Joseph Seep Purchasing Agency
(Effective Decem'er 17)

Penna Grade O'l in New York Transit Line (New York)	$2.80
Bradford District Oil in National Transit Lines (Pennsylvania)	2.80
Penna Grade Oil in National Transit Lines (Pennsylvania)	2.61
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	2.61
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	2.60
Penna Grade Oil in Buckeye Pipe Line lines (Ohio)	2.31
Cabell Grade Oil in Eureka Pipe Line lines (West Virginia) (February 9, 1928)	1.35
Corning 35-cent grade oil in Buckeye Pipe Line Co.'s line (December 19) ...	1.45
Corning 25-cent grade oil in Buckeye Pipe Line Co.'s lines (December 19) ..	1.40
Somerset Oil in Cumberland Pipe Line lines (Kentucky) (February 9, 1928).	1.40
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (August 1)	.95
Keister (Pennsylvania) (August 1)	1.10

MIDDLE WESTERN STATES
Ohio Oil Co.
(Effective March 14, 1927)

Lima (February 10)	$1.55
Wooster	1.57
Illinois (Feb. 23, 1928)	1.50
Indiana (Feb. 10, 1928)	1.52
Princeton (Feb. 23, 1928)	1.50
Plymouth (Feb. 23, 1928)	1.52
Waterloo (Nov. 17, 1926)	1.55
*Western Kentucky	1.32
**Saginaw, Mich., Saginaw Sand (May 27)	2.05
**Saginaw, Mich., Berea Sand (May 27)	1.90
†Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 16)	1.50
‡Oil in lines of Stoll Oil Refining Co. in Oil City, Ky. (March 16, 1927)	1.50
§Oil Springs (Canada) (February 16, 1928)	2.07
§Petrolia (Canada) (February 10, 1928)	1.91

*Posted by Ohio Oil Co.
†Posted by Paragon Development Co.
‡Posted by Stoll Oil Refining Co.
§Posted by Imperial Oil Co., Ltd.
**Posted by Sun Oil Co.

MEXICAN CRUDE

Note—Due to the fact that the exportation of Tuxpam light crude oil has become a negligible factor, prices will no longer be published.

*Panuco heavy (f.o.b. Mex. ports)	$1.15

*$1.15.

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Oil Securities Showing Improvement

Effect of the Various Curtailment Programs Reflected in the Market. Sinclair Again Under Accumulation

In a week during which the general market continued a bullish tone, the oils acted well, although there were no outstanding performances excepting Sinclair Consolidated.

The improved conditions in the oil stocks reflected to a certain extent the various programs of curtailment which are being worked out all over the Mid-Continent Field.

Sinclair again was under heavy accumulation by strong hands with varying reports of who was doing the majority of the purchasing. The stock touched 27⅝ on Friday.

Gulf Oil Corp.

New investment in plant and properties by Gulf Oil Corp. in 1927 was $67,000,000, according to W. L. Mellon, president.

Crude oil production was 54,770,000 bbls., net, a daily average of more than 150,000 bbls. In addition a number of wells in various districts were closed in.

Regarding sulphur contracts, he says: "In June the Gulf Production Co. concluded a contract with Texas Gulf Sulphur Co. for operation and extraction of sulphur from its properties at Boling Dome, Texas. This arrangement assures the company of a 50 per cent participation in net results without risk or requirement of further investment. Since conclusion of this contract the company has acquired a 50 per cent interest in a number of additional properties which the Sulphur company has acquired on Boling Dome."

Taking into consideration present low oil prices, Mr. Mellon says the outlook for better earnings for 1928 is favorable. He adds inventories are carried at much lower level than the year previous, reduction having been absorbed in 1927 operations. Though the volume of products sold last year was larger than 1926, gross earnings were $8,400,000 less. Net profits reported are after deducting all charges, reserves and other items including all drilling expenses.

Expansion of properties on which $67,000,000 was spent consisted chiefly of additional heaseholds, larger storage, new pipe lines including one to West Texas and connection with Panhandle, completing refineries at Philadelphia and Bayonne and expansion in tanker fleet, bulk and retail distributing stations.

Consolidated balance sheet of Gulf Oil Corp. and subsidiaries as of December 31, 1927, compares as follows:

Assets	1927	1926
Plant	$429,816,082	$376,036,625
Cash	16,880,677	6,788,447
Investm	5,996,052	6,106,510
Reacq secur	1,874,906	300,000
Oth invest Nts & ac rec	18,841,994	17,292,625
Oil invent	54,602,139	66,928,220
Mat & sup	11,255,692	12,410,099
Emp. loans	8,331,029	8,925,130
Def chgs	5,235,459	4,549,486
Total	$552,834,030	$499,337,142
Liabilities		
*Cap. stock	$111,252,900	$110,367,900
Fund debt	69,904,000	38,904,000
Accts payable	13,229,228	14,512,230
Notes payable	1,148,500	15,902,101
Accrd liab.	2,559,409	1,894,454
Depr., depl., res.	205,592,929	176,838,987
Tax res. etc.	2,597,401	5,198,052
Def. credit	483,877	335,513
Min. int. in subs.	25,337	10,362
Surplus	146,040,449	135,373,533
Total	$552,834,030	$499,337,142

*Par value $25.

Mountain & Gulf

Mountain & Gulf Oil Co. reports for the year ended December 31, 1927, operating profit of $711,125 before depreciation, depletion and Federal taxes.

Assets: Oil lands, field equipment, less depreciation and depletion, $6,568,457; cash, $179,695; bonds, $2,335,018; accounts receivable, $64,708; stocks, $238,084; loans, $185,000; deferred assets, $271,153; total, $9,842,115.

Liabilities: Capital stock (par $1) $3,705,200; accounts payable, $123,251; dividends payable, $111,156; unclaimed dividends, $7,305; deferred liabilities, $159,493; reserves, $54,655; profit and loss surplus, $5,681,055; total, $9,842,115.

The Texas Corporation

Thomas A. O'Donnell, chairman of the board of the California Petroleum Corp., and Jacques Vinmont, president, were elected directors of The Texas Corporation to fill vacancies. The Texas Corporation recently absorbed California Petroleum. George G. Allen of the Southern Power Co., a Duke property, was elected a director of The Texas Corporation to succeed W. W. Bruce.

The officers of the corporation were reelected. The chairmanship left vacant by the resignation of Amos L. Beaty was not filled.

Atlantic Refining

Report of Atlantic Refining Co. and subsidiaries for year ended December 31, 1927, shows consolidated net profit after interest, depreciation, depletion, inventory adjustments, Federal taxes, etc., of $2,315,715, the same as shown in preliminary statement. This is equivalent after 7 per cent preferred dividends to $1.83 a share (par $100) earned on 500,000 shares of common stock and compares with net profit of $7,021,334 or $11.24 a common share in 1926.

Consolidated income account for year 1927, compares as follows:

	1927	1926
Gross income	$139,291,149	$161,015,952
Expenses	124,822,889	143,390,874
Oper. inc.	$ 14,468,260	$ 17,625,078
Other inc.	1,538,101	1,501,748
Total inc.	$ 16,006,362	$ 19,126,826
Interest	983,157	1,048,486
Dep. and depl. res., etc.	9,792,082	9,767,842
Inv. adj.	1,569,714	339,164
Federal tax	1,345,694	950,000
Net profit	$ 2,315,715	$ 7,021,334
Preferred dividends	1,400,350	1,400,350
Com. dividends	1,500,000	
Deficit	$ 584,635	$* 5,620,984

*Surplus.

Consolidated balance sheet of Atlantic Refining Co. as of December 31, 1927 compares as follows:

Assets	1927	1926
*Plant, etc.	$ 72,042,609	$ 68,291,747
Inv. oth. cos.	10,344,681	8,018,562
Lib. bds., etc.	325,366	2,015,535
Accts. and notes rec.	14,606,244	16,238,160
Oil invent.	29,820,197	
Mdse. and mat.	4,871,951	$38,470,612
Due from emp.	63,971	
Cash	3,561,104	3,206,625
Other curr. assets	21,312	
Improv. res.		1,200,000
Advances		167,043
Accrd. int. rec.		187,856
Prepd. items	2,228,952	
Sundry assets		3,597,553
Total	$138,885,847	$140,273,694
Liabilities		
Preferred stock	$ 20,000,000	$ 20,000,000
Common stock	50,000,000	50,000,000
†Sub. cos. stk.	176,300	276,400
Bond debt	14,456,600	17,554,950
Federal tax	222,000	950,000
Accts. payable	5,655,754	7,283,601
Notes payable	3,000,000	10,000
Accrd. items	333,643	382,111
O her curr. liab.	42,122	
Def. items	275,635	360,321
Opr. res. etc.	11,702,309	9,801,586
Def. of subs.	62,764	65,235
Surplus	33,084,248	33,719,960
Total	$138,885,847	$140,273,694

*After depreciation and depletion. †Not held by Atlantic Refining Co. §Includes oil inventory.

Beacon Oil Co.

Consolidated balance sheet of Beacon Oil Co. and subsidiaries as of December 31, 1927, compares as follows:

Assets	1927	1926
Real estate, plant and equipment*	$13,864,373	$14,462,579
Marine equipment*	3,648,161	
Lease and purchase options	597,660	597,660
Investments	5,369,326	3,184,043
Patents, processes, etc.	1,118,065	1,074,921
Cash and call loans	2,045,517	940,173
Notes and accounts receivable	1,647,529	2,024,684
Inventories	3,284,365	2,658,115
Cash in sinking fund and in escrow	29,971	13,331
Due from affiliated companies	113,737	
Mortgages and other receivables	53,974	72,090
Deferred charges	726,877	526,362
Total	$32,499,555	$25,533,958
Liabilities		
Preferred stock	$2,302,600	$2,412,600
Common stock	†12,324,256	9,152,000
Class B non-voting stock of subsidiary companies	18,850	18,850
Minority interests		1,403
Funded debt	4,722,181	5,088,050
Purchase money obligation	1,871,424	37,935
Real estate mortgages	1,329,220	154,296
Notes payable	457,107	554,650
Accounts payable	1,180,032	848,445
Accrued liabilities	181,320	149,134
Other current liabilities	1,036,342	
Reserve for accumulated repairs		54,721
Reserves for taxes and contingencies	980,604	1,024,784
Capital surplus	3,365,274	3,534,153
Earned surplus	2,730,345	2,512,937
Total	$32,499,555	$25,533,958

*After depreciation. †Represented by 915,391 no par shares.

Standard of Kansas

The balance sheet of the Standard Oil Co. of Kansas at the close of business, December 31, 1927, follows:

Assets	
Real estate and plant	$6,509,201.26
Cash	99,815.12
Demand loans	450,000.00
U. S. Government bonds	2,004,274.37
Accounts receivable	354,066.77
Merchandise inventory	1,306,599.14
Surplus/deficit	190,820.42
	$10,914,797.08
Liabilities	
Capital stock	$8,000,000.00
Accounts payable	299,162.22
Depreciation reserve	2,615,634.86
	$10,914,797.08
Surplus	
Loss for 1927	$827,757.32
Surplus balance 12-31-1926	636,936.90
Surplus deficit 12-31-1927	$190,820.42

In his annual report President A. S. Hopkins says: "The crude oil situation is improving at the present time, with production and consumption practically balanced and with a marked preference being manifested for the lighter gravity sweet crudes. This continued improvement in the crude oil situation will, no doubt, result in better prices for the refined products. In fact, the tendency of the gasoline market is toward higher levels."

LIST OF ACTIVE PETROLEUM STOCKS

Stocks—	Par	Clos. Quot. Mar.26	Clos. Quot. Mar.19	1928 High	1928 Low	1927 High	1927 Low	1926 High	1926 Low
Amerada Corp.	..	31¾	30⅛	32⅝	27⅛	37⅛	27⅝	32⅞	24⅜
Atlantic Refining, com.	100	110	108⅛	112⅝	95⅝	131⅝	107	128⅝	97
Barnsdall "A"	25	23¼	22⅞	26½	22⅛	35½	20⅜	32½	23½
California Petroleum, com.	25	26	25⅞	26⅞	24	32⅞	20	28⅛	30⅞
Houston Oil	100	147	147½	156⅛	127	175⅜	60⅛	75	50¼
Independent Oil & Gas	..	26	25⅜	28¼	21¾	32⅜	17⅜	34	20¼
Louisiana Oil	10	10⅝	9⅞	12⅜	9⅜	18⅛	10⅜	19⅝	12
Maracaibo	..	15⅛	14½	18⅛	12½	22⅝	12	27⅜	18⅜
Marland	..	36½	35¼	38⅝	33	58⅛	31	63⅜	41¼
Mid-Continent Petroleum	..	26⅜	26½	29½	25⅛	39⅝	25½	41	25⅝
National Supply	50	96	95	96½	90	95⅜	76	84⅞	55½
Oil Well Supply	25	34	34	41	33	44⅝	31¼	36	30
Pan American, B	50	42½	43	46⅝	37¾	66⅝	45⅛	72⅝	56⅛
Pan American, Western B	..	19⅝	20	21	18¼	37⅞	16⅝	46	34
Phillips Petroleum	..	39	39	43¼	35¼	60¼	36½	54⅞	42½
Producers & Refiners	50	21¼	20½	26	16	33⅜	16¾	26	11
Pure Oil, com.	..	21⅝	21⅝	27⅛	19	33½	25	31	25⅜
Royal Dutch, N. Y., sh.	13.40	45⅝	46	48⅝	44⅝	54½	44¼	57⅜	49⅜
Shell Transport	10	42	*42	42⅞	39⅝	49	41½	48⅞	42
Shell Union, com.	..	25⅜	25⅝	26⅞	23¼	31⅝	24⅝	30⅞	24
Simms Petroleum	10	20½	19⅞	24⅝	18	23⅞	14¼	25⅝	16½
Sinclair Consolidated	..	25⅝	24⅛	27⅜	17½	22⅜	15⅛	24⅞	16⅜
Skelly Oil	25	27	26⅜	28½	25	37⅜	24½	37½	27
Standard of California	25	55⅜	55⅞	56⅝	53	60⅜	50⅜	63½	54
Standard of New Jersey, com.	25	40	39	40⅝	37⅝	41⅞	35⅛	46⅝	37½
Standard of New York	25	29⅝	30⅜	31⅜	28⅜	34⅛	29⅜	47¼	30⅝
Sun Oil Co.	..	41	40⅝	42⅜	31½	34⅞	30	41¼	30⅛
The Texas Company	25	52½	51⅜	55⅝	50	58	45	58	48
Texas Pacific Coal & Oil	10	12¾	12¾	17	12⅛	18⅞	12	19½	12½
Tide Water Associated	..	15¼	15	17¼	14⅝	19⅛	15⅝	21	17
Transcontinental	..	8	8⅛	10⅛	7⅛	10⅜	3⅝	5⅛	3
Un'on Oil of California	25	48⅛	50	51	42⅝	56⅛	39⅜	53⅝	37¼
Union Tank, com.	100	120	120¼	125	119¼	126	94	120⅝	84½
White Eagle Oil & Refining	..	21½	*20¼	24¼	20¼	27½	21⅜	29⅝	25⅜
Standard Oils									
Anglo-American Oil	£1	20⅜	*20⅛	22⅜	18⅛	21⅝	17⅛	19⅜	16½
Borne Scrymser	25	50	*49	56	50	69	49½	75	65
Buckeye Pipe Line	50	65	*64½	67	58	59	45	69½	42
Chesebrough Manufacturing Co.	25	130	*135	149¾	117¼	126	76½	81⅛	63
Continental	10	17⅛	16⅞	23	16	22⅝	16¼	25⅞	10¼
Cumberland Pipe Line	100	98	*98	105	89	‡137	90	137	102
Eureka Pipe Line	100	70	*70	72¾	64⅛	66	47	43¾	42
Galena Signal, com.	100	7	*6⅞	6½	4	13½	4½	32⅜	9⅞
Humble Oil & Refining Co.	25	63⅛	62⅛	68	58½	67⅜	54	99⅝	52
Illinois Pipe Line	100	202	200	206	176½	181½	123⅜	144	131
Imperial Oil	..	63	58⅝	65¼	56⅞	64⅜	37⅜	39⅜	32¼
Indiana Pipe Line	50	83	84	84⅜	75	93	61	68	52½
International Petroleum Co.	10	39½	36⅞	43	35	36⅜	28½	35¼	28⅜
National Transit Co.	12.50	28	28⅜	28¼	20½	23¼	13¼	30⅜	27½
New York Transit	100	54	*54	54	38½	42	31¼	61½	27½
Northern Pipe Line	100	109	*112	103	94	96	70	80⅛	64
Ohio Oil Co.	25	60¼	*59⅛	66½	58½	66	52	67⅝	55⅜
Penn-Mex Fuel	25	41	*38	44⅝	33	36½	12	24¼	15
Prairie Oil & Gas	25	48⅛	*48⅜	50½	47⅝	55⅛	45⅝	60¼	49
Prairie Pipe Line	100	219⅜	215¼	224	184	189¼	132	137⅛	122½
Solar Refining Co.	100	175	*174	178	175	‡201⅛	178	212	184½
South Penn Oil	25	38	*38	40¼	36⅝	41½	34½	50	30
Southwest Pa. Line	100	90	*86	88⅝	70	78	55½	56	47½
Southern Pipe Line	50	30	*29	33½	21	39	18½	27	34
Standard of Indiana	25	74⅛	73½	80⅛	71⅛	80⅛	64⅝	70½	60½
Standard of Kansas	25	18¼	15⅝	17	15	20⅜	15⅝	36½	26½
Standard of Kentucky	25	126½	125½	133	124	125½	111½	134⅜	107
Standard of Nebraska	25	41	41½	43	40⅛	49⅛	43	51⅛	42
Standard of Ohio, com.	100	71	*71	79⅝	72	81½	72	362	192½
Swan & Finch, com.	25	16	*16	17⅜	16⅛	21	11½	21	18
Vacuum Oil	25	141⅝	143	149	136⅜	147	95⅛	109⅝	94⅛
Miscellaneous									
Gulf Oil Corp. of La.	25	110½	106½	117¼	101⅛	116	86¼	95	82½

*Bid, no sales. ‡Old stock. †New stock. §Ex-dividend.

Quotations furnished by W. J. Wollman & Co.

The Oil and Gas Journal weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb was as follows:

Mar. 26	64.48	Feb. 20	60.77	Jan. 16	63.87
Mar. 19	63.79	Feb. 13	61.02	Jan. 9	63.55
Mar. 12	62.07	Feb. 6	62.03	Dec. 31	62.09
Mar. 5	62.56	Jan. 30	62.75	Dec. 27	62.86
Feb. 27	62.54	Jan. 23	63.49	Dec. 19	63.24

STATE BACKING IN CONSERVATION URGED

(Continued from Page 26)

strictest provisions of the resolution, he said.

The resolution passed unanimously, and the committee will be appointed by President J. C. Denton upon his return from Washington next week.

The plan presented by Mr. Cullinan follows:

Problem No. 1—Overproduction

Consideration of the above presupposes unanimous agreement on the following points:

First—Presently excessive actual, with an apparent 50 per cent minimum, potential crude production in sight, particularly in the States of California, Oklahoma and Texas, a condition that unless curbed seems likely to continue for months, if not years;

Second—That the excessive actual and potential production in the three States is confined to a few pools and to less than 1 per cent of the nation's producing wells;

Third—That it is urgently important that such excess actual production, now around 2,400,000 bbls. per day, be reduced to the extent of at least 20 per cent with imports held at 10 per cent or less of United States of America production, to the end that the producing end of the industry may be stabilized by reduction rather than further depressed by increased stocks, and crude prices be advanced to a point that will show reasonable profit after usual operating expenses and depletion and depreciation charges;

Fourth—That as a vital factor in promoting conservation and preventing the untimely abandonment of producing wells, no restrictions should apply to the older pools, and every encouragement should be extended to the owners of small wells to enable full operation and insure adequate care and attention, and thereby prolong the life of such wells;

Fifth—That as applied to the number of wells that may be located or drilled, the quantity of oil that may be produced daily from such wells, or the quantity of oil that may be delivered directly to privately owned storage under our Federal and State Constitutions and existing statutes, this is a problem for producers and pipe line representatives to work out equitably between the interests they represent on such basis as will meet national and State conservation policies and legal requirements.

Predicated on the above, the following plan is respectfully submitted for your consideration, change, modification or approval as your judgment dictates, contemplating that when plan is agreed upon and approved by you, a copy will be submitted to the President, the Attorney-General of the United States of America, the Federal Oil Conservation Board through its chairman, the Honorable Hubert Work, and in turn, to the Governors, the Attorneys-General and the chairman of the Corporation Commissions of the States of California, Oklahoma and Texas for the purpose of securing a joint conference of the executives and such representatives of the three States to consider, change, modify and approve the plan, in the hope and expectation that when so approved, similar orders will issue making the plan effective by May 1, 1928

Extend to Other States

The plan further contemplates being extended to other States as producing conditions in such States demand.

Sixth—Units and definitions follow:

(a) Pools to be classed as large, medium and small, the former meaning an average production per well of over 100 bbls. per day, the latter an average production per well of less than 10 bbls. per day;

(b) Area of pools, 2½-mile radius plus connected development beyond such radius, the center of the 40 acres on which the discovery well is located to be taken as the center of each pool;

(c) Operating unit to be 40 acres with an allowance of four well locations on each unit, or 10 acres to each producing well. When more than four wells are drilled on one unit, allowance per well to be proportionately reduced.

Seventh—Attached hereto for your consideration is

(d) Tentative form of order that it is assumed would be approximately such as the respective Corporation would issue;

(e) Two small field maps for illustrating how pools would be named and determined, to put this plan in effect.

PETROLEUM STATISTICS

Production—	1926	1927	Increase or (Decrease Bbls.	Per Ct.	From 1857 to 1927, Incl.
United States	770,874,000	903,800,000	132,926,000	17.2	10,344,346,000
Russia	64,311,000	72,400,000	8,089,000	12.5	2,242,342,000
Mexico	90,421,000	64,200,000	(26,221,000)	(29.0)	1,465,127,000
Venezuela	37,226,000	64,400,000	27,174,000	73.0	139,625,000
Colombia	6,444,000	14,600,000	8,156,000	126.5	23,243,000
Others	129,113,600	132,745,000	3,632,000	2.8	1,597,233,000
Total	1,098,389,000	1,252,145,000	153,756,000	14.0	15,811,816,000

*Imports—	1926	1927
From Mexico	53,023,083	29,199,837
From Venezuela	12,489,421	25,032,557
From Colombia	1,767,696	8,324,074
From Others	7,650,191	6,100,084
Total	74,930,391	68,656,552

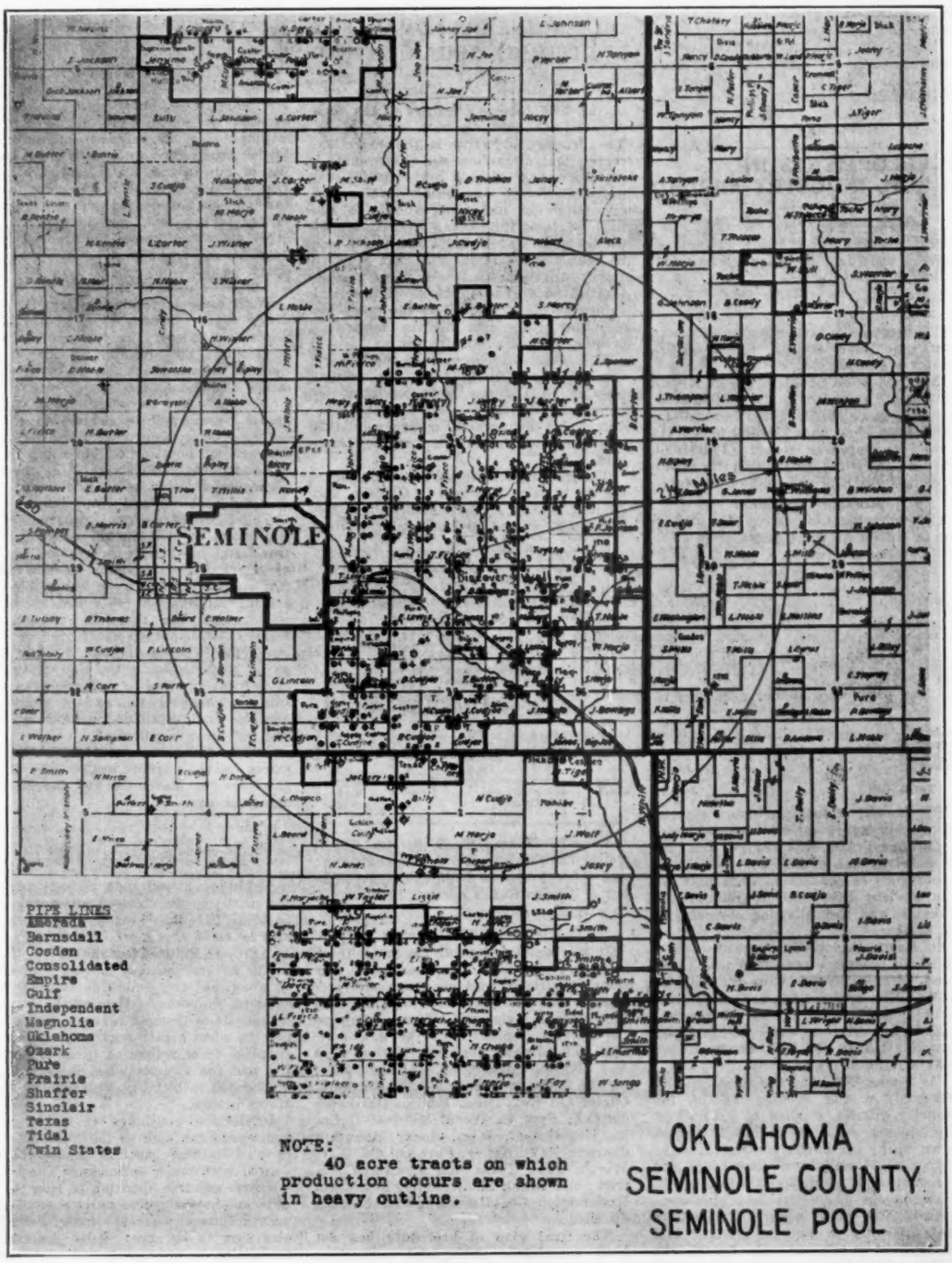
Stocks, United States of America—	
Crude stocks January 1, 1927	396,208,000
Crude stocks January 1, 1928	463,501,000

It may be pertinent to mention here that beyond the issuance of restriction of movement orders, receiving, filing and posting the daily runs from each pool on which commission's orders have issued, receiving reports on monthly runs from other fields or pools within the State under their jurisdiction and seeing that its orders are reasonably complied with, no additional duty or expense would be involved on the part of the State or the respective commissions.

Suggested Form

.....Commission's Order.

In accord with our interpretation of the aims and objects contemplated by the executive order of the President of the United States under date of December 19, 1924, creating the Federal Oil Conservation Board, and the Federal Oil Conservation Board's communication dated February 29, 1928, addressed to the Governors of the petroleum producing States, by its chairman, the Hon. Hubert Work, and acting under the laws of this State and with the approval of the Governor of the State, the following rules and



regulations are hereby adopted, prescribed and issued by the State's Commission, effective on and after the....day of....., 1928, until modified or cancelled by said Commissions:

RULE 1. From and after the effective date hereof, the maximum amount of crude petroleum that may be delivered daily to

1. Trunk pipe lines
2. Railroads
3. Tankers, barges or boats
4. Refineries

from the

.....Pool (as indicated on the accompanying map and extension thereof) .....County .....barrels (of 42 gallons.)

RULE 2. All gathering pipe line systems receiving oil from said pool under this order and Rule 1 shall

(a) File with the.....Commission daily reports of runs, and

(b) Post the runs credited daily to each producer at a designated point in the field:

(c) Show the amount of oil received and delivered from said pool, the name of the producer, the name of the property, the quantity in barrels from which received, and the place of delivery.

.....COMMISSION.

Dated..... By.....

....., 19.. Chairman

APPROVED

.....

Governor.

DEVELOPMENTS IN OIL INDUSTRY ABROAD

(Continued from Page 30)

siderably, instead of showing an increase foreseen according to the program.

Details are:

	Tons
Dossor	16,284
Makat	3,392

The decrease is accounted for by heavy frosts and snow storms, which continued for a long period.

The production of oil in Soviet Russia for 1926-27 amounted to 10,196,900 tons, excluding gas (246,600 tons), and oil received from hand dugs (86,500 tons.) As against the pre-war record (11,391,900 tons in 1901) the production for 1926-27 constitutes 89.5 per cent of the total.

Russian Production

The following table gives the production in Russia for seven years, from 1920-27 (in thousand tons).

	Baku	Grozny	Ural-Emba	Kuban-Black Sea	Usbek-istan	Turmen-istan
1920-21	2,457.3	1,203.0	57.4	40.8	17.5	4.6
1921-22	2,945.3	1,436.9	133.9	50.4	17.2	7.2
1922-23	3,485.1	1,503.4	133.1	46.0	15.3	5.7
1923-24	4,124.8	1,631.1	125.6	54.4	16.7	5.2
1924-25	4,662.6	2,026.7	194.9	76.8	18.8	6.1
1925-26	5,513.6	2,411.9	218.1	72.4	18.6	11.4
1926-27	6,809.7	3,021.8	253.3	82.0	20.2	9.9
1913	7,357.9	1,208.2	117.6	86.8	22.9	129.6

The production divided according to type of engine used (in thousands tons):

	Steam Engines		Combust. Engines		Elec. ric Motors	
	1926-27	25-26	1926-27	25-26	1926-27	25-26
Baku	47.9	185.8	156.2	280.8	5,260.4	4,112.6
Grozny	251.1	358.6	116.1	91.1	523.7	339.2
Emba	....	.....	25.7	119.6	99.3	98.1
Kuban	46.3	53.6	25.7	15.4	8.0	3.4
Total	345.3	598.0	450.6	501.9	5,885.4	4,553.3

Internal

The amount of fuel (including gas and electric energy in oil equivalents) used by the four Trusts, was 624,900 tons; 9.4 per cent less than in 1925-26.

In regard to production costs only details for the first half of 1926-27 are available, and the following observations are made:

At Baku, exploitation expenses on 1 ton of oil produced have decreased (compared with last year) from Rs. 6.07 to Rs. 4.81, i e., by Rs. 1.16; at Grozny from Rs. 3.07 to Rs. 2.85, i.e. by 22 copecks; at Emba exploitations expenses have risen from Rs. 9.20 to Rs. 9 81, i.e. by 61 copecks per ton of oil produced.

The Soviet Naphtha Syndicate is also interested in the opening up of the Okhinsky district, reputed to be the best oil-producing area of Sakh. A project drawn up by the Soviet contemplates the drilling of 44 wells over four years and a production of about 350,000 tons of oil. Work on the properties has also commenced. The work is carried on under great difficulty in view of climatic and geographical conditions. To lighten the loading of tankers a pipeline has been built out to sea, but this, so far, has not been used.

Venezuelan Production

Company and field—	Amount bbls.
British Controlled Oilfields, Ltd.:	
El Mene	2,475,080
Caribbean Petroleum Co.:	
Mene Grande	9,818,296
Colon Development Co.:	
Rio Oro, Tarra	107,188
Lago Development Corp.:	
Ambrosio	146,427
La Rosa	3,151,641
Benetez	926,793
Lagunillas	11,960,276
Venezuela Gulf Oil Co.:	
Ambrosio	121,949
La Rosa	5,888,687
Benetez	218,809
Lagunillas	7,670,658
Venezuelan Oil Concessions:	
Ambrosio	3,947
La Rosa	10,269,321
Benetez	676
Lagunillas	9,194,644
Las Paz	228,910
Concepcion	633,782

Production by Fields (Maracaibo)

	Bbls.
El Mene	2,475,084
Mene Grande	9,818,296
Rio Oro and Rio Tarra	107,188
Ambrosio	19,309,649
Benetez	1,146,278
Lagunillas	28,825,578
La Paz	288,910
Concepcion	633,782
Total	62,817 088

OIL ENGINEERS ADVANCE DISTRICT ORGANIZATION

(Continued from Page 28)

in the field become members of the division and take active part in its activities. The primary objective is the collection, correlation, discussion and dissemination of information of both a theoretical and practical nature concerning development of production technique, and it is the hope of those promoting the success of the division that technical lines will not be too closely drawn and that activity and future discussions will focus in substantial part upon problems of practical value and direct bearing on the every-day activities of the men directly engaged in drilling for and producing oil.

The board of directors of the American Petroleum Institute at the annual meeting in Chicago last December directed its officers to organize and conduct under their general management this new departmental activity of the Institute.

The meeting for the purpose of organizing the division was held in Chicago, and John R. Suman of the Humble Oil & Refining Co. was elected general chairman for the first year; T. E. Swigart, Shell Co. of California, general vice chairman; and C. A. Young of Dallas, Tex., a member of the institute's administrative staff, as executive secretary.

Five District Divisions

It was concluded to divide the country into five districts, each having a sectional chairman, vice chairman and secretary, and that all these together with the general divisional officers comprise the general committee of the new division. The district chairmen elected were A. C. Rubel, Union Oil Co. of California, for the California district; C. D. Watson, Carter Oil Co., Tulsa, Kansas-Oklahoma district; Fred E. Wood, Midwest Refining Co., Casper, Wyo., Rocky Mountain district; R. B. Kelley, Pure Oil Co., Fort Worth, Tex., Texas and Louisiana district; and Frank M. Brewster, Petroleum Reclamation Co., Bradford, Pa., Eastern district.

The final plan of procedure has not been completed. A special committee composed of Max Ball, Wallace E. Pratt and G. Clark Gester is at work developing a plan to recommend for approval. The division will hold its first general meeting at Colorado Springs, Colo., in June, on the dates given above. In the meantime the district chairmen are going ahead with a skeletonized program for organization and building up their respective district organizations.

The Eastern district organization was perfected in New York recently, at which time W. J. Brundred, Brundred Oil Corp., Oil City, Pa., was elected vice president, and Forrest D. Dorn, Forest Oil Corp., Bradford, Pa., was secretary. A two-day session of this Eastern district division will be held in Bradford, Pa., about May 1 for the purpose of studying the interesting developments relating to water flooding, air pressuring, deep drilling and other process in use in northern Pennsylvania and in the Allegany Field in southwestern New York.

GASOLINES CONTINUE TO ADVANCE IN OKLAHOMA

(Continued from Page 24)

price, 21 cents of the 25 are taken care of and the improvement of the prices for fuel and other oils will probably equalize the balance.

Over the past three months, gasoline prices have been slowly advanced from 5¾ cents to 6¾ cents or 6⅝ cents. An attempt to continue to advance prices without a crude advance might invite higher crude runs and justify the building of new plants. A'so, refiners agree that a crude advance in the next month can not be anticipated strongly in face of the high rate of production and the great amount of proven acreage awaiting development as soon as restrictions are lifted.

Jobber Buying

With these factors operating, the tendency is for jobbers to buy only their needs and to carry only a small margin of stocks. The demand is thus immediately reflected in the refinery shipments and should favorable weather continue and allow the consumption to increase over April in proportion to the increase being shown at present, ample support will be afforded, but a lull in the demand might seriously threaten the new higher price levels being established.

Gasoline and Naphthas

The U. S. Motor grade was quoted at 6¼ cents as a minmum direct to the trade and most refiners are asking 6⅜ cents. Export shipments of the 64-66 375 endpoint grade were being filled by several refiners but this had no effect in strengthening the spot market materially. Comparatively little of this product is being moved and this has been partly responsible for the slow movement of natural gasoline to refiners. The high initial demanded for export shipments has also made the blending of much natural gasolines impossible.

Following are the average weighted prices on the various grades of refinery gasolines for March 26 and for Monday one week ago.

Grade—	Price Mar. 26	Price Mar. 19
58-60 U. S. Motor	.06490	.06417
60-62 437 endpoin	.06375	.06653
60-62 400 endpoint	.06807	.06906
64-66 375 endpoint	.07214	.07125

Naphtha showed only normal activity but with gasoline prices advancing and natural gasolines weakening, blending may be made at a more favorable margin.

Natural Gasolines

The natural gasoline market is decidedly weak, but this condition is considered as being temporary reflecting the seasonal falling off of demand between the winter months when higher gravity gasolines are supplied from refineries in good quantities and the summer when large volumes are needed to blend up the regular U. S. Motor grades.

Production continues at a high rate and stocks are high so the immediate future of natural gasoline prices are not viewed with much optimism. The better refinery gasoline demand is sure to be reflected in the better movement of natural gasolines, but this improvement is also sure to be slow. Price concessions amounting to one-eighth and one-quarter cents were being made freely by smaller manufacturers in order to move the material. The C grade suffered the most in this respect and some was traded at 3⅛ cents.

Kerosenes and Distillates

The improved demand for tractor fuels has allowed kerosene prices to be advanced over what they were a week ago and the market continues strong. Some contend this use has supported the movement of gasoline also, for with gasoline retail prices near the kerosene price farmers blend in a large portion of gasoline. This practice is especially applicable where state taxes are waived on gasoline consumed for agricultural purposes. Despite this tendency, kerosene has witnessed a very good movement into the midwest.

Distillates have been almost entirely removed from the active market and refiners have received only scattered orders.

Fuel Oil and Gas Oil

Practically all of the fuel produced at refineries in Oklahoma over March has been moved on contract and stocks have been kept relatively low. Instead of a flood of fuel oil, the supply of spot fuel in the Mid-Continent has been relatively small. Prices have not been advanced but neither has there been any tendency to reduce prices. The exceptionally good demand for oil fuel by the steel industry and the automotive industry has been largely responsible for this. Some high sulphur content West Texas crudes have been available in the Chicago area, but this has not always been acceptable to these manufacturers. Steel manufacturers insist on low sulphur fuels in certain processes of refining the iron ore and for this reason the Oklahoma fuel has been finding a good outlet.

Gas oil prices have remained unchanged at 2½ cents and this simply emphasizes the fact that large quantities of it have been built up at refineries and these are being drawn upon rather than refiners entering the spot market to supply any needs for cracking stock over their production.

Lubricants and Wax

The lubricating oil market showed very little change from the standpoint of prices, but there was a better movement of motor oils. Bright stocks continued to be very plentiful at relatively low prices and while a good share of the production is moving for export, the supply still remains higher than can be readily absorbed by local refiners. Wax was much stronger and prices were advanced. The domestic market is playing a major part in this demand and with a good domestic market promised over the next 60 days as indicated by inquiries and orders already in hand, refiners are confident that prices may be advanced further.

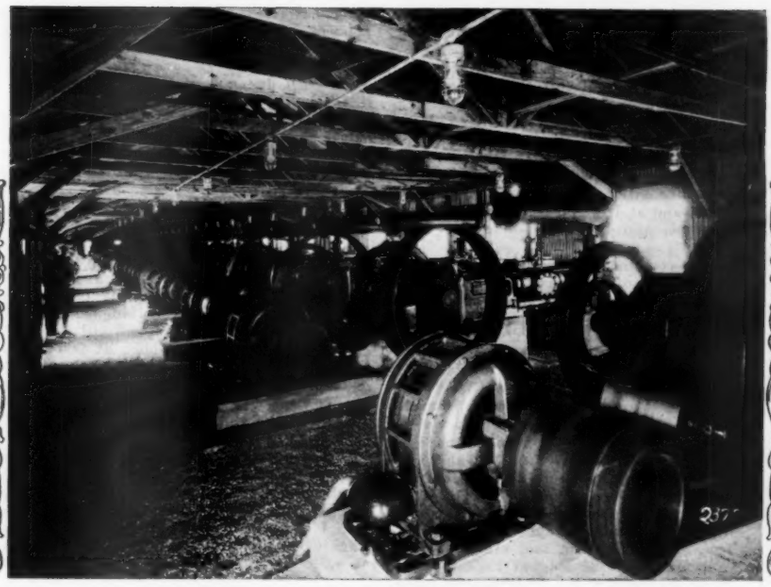
N. J. COMPANY EXPLAINS SIGNIFICANCE OF PRICES

(Continued from Page 174)

degrees gravity. The price for this grade is exactly the same under the new arrangement as it was under the old, viz., $1.28 per barrel. On the other hand, the producer of the crude making up this average stream receives more or less per barrel according to the quality of the oil collected from his tanks by the gathering lines. If his production is running very light he receives a higher price under the new schedule than formerly. If he is producing the heavier grades he receives less per barrel than before.

The change recently made in the schedule was not arbitrary but almost an automatic readjustment. The Carter Oil Co. was simply giving recognition to the fact that crude is worth what can be obtained for the products derived therefrom. The two controlling products are, first, gasoline and, second, fuel oil. Consequently, any marked variation in the relation of these two important products, one to the other, should be reflected in the prices paid for the raw material.

Starting with 32 gravity oil, it was found that each rise of one degree in gravity allows the refiner to recover approximately seven-tenths of a gallon more gasoline per barrel, and a correspondingly smaller yield of fuel oil. This in-



The Texas Company's Plant at Earlsboro.

The TEXAS COMPANY uses Electric Power!

THE TEXAS COMPANY'S installation in its Flowing Plant in the Earlsboro District is another important endorsement of the efficiency of ELECTRIC POWER.

This installation has 24—75 H.P. motors driving compressors operating air gas-lift.

IMPORTANT: Gas-Lift Plants using ELECTRIC POWER are quickly installed at low initial cost. They are easily moved from one location to another with high salvage value. Two operators can efficiently handle one of these plants.

Additional information relative to Gas-Lifts and all phases of ELECTRIC POWER will be gladly furnished on request. Address—Commercial Department, Oklahoma City.

OKLAHOMA GAS AND ELECTRIC COMPANY

J. F. Owens, Vice President and General Manager

Courteous Personal Attention to Every Customer

creased gasoline yield is worth the difference between the wholesale prices for gasoline and fuel oil—which today per gallon is slightly over 4 cents. This, consequently, makes the differential in favor of the lighter crude practically 3 cents per barrel for each degree.

In line with the present market price of fuel oil the new schedule calls for a price of 76 cents per barrel for heavy crude oil 24-24.9 gravity. A differential of 5 cents applies for each rise of one degree in gravity up to the base, or 32.

The net effect of the change is that the producer who delivers heavy oil and who is, therefore, supplying raw material that yields a disproportionate amount of the cheaper product is paid accordingly, whereas if he runs crude oil with a greater gasoline content he receives more money.

TEXAS PANHANDLE FIELDS

(Continued from Page 34)

from sand at 2,336-44 feet. This well is estimated to be good for around 500 bbls. daily.

Next in importance was Tower & McKanna's No. 2 Waggoner along the east line of their 80-acre lease in Section 30. Block 4, H.&T.C. Survey, and south of the original Rock Crossing Pool. This well made 400 bbls. the first 24 hours from sand at 2,297-2,320 feet and then stopped flowing. The next 17 hours it swabbed 375 bbls. As a result of the production from this well it is expected that considerable new drilling will be started in this immediate area.

Cosden Buys Acreage

One of the biggest deals in the history of the Wichita Falls district was closed last week when Cosden & Co. of Fort Worth purchased the producing acreage of Milham Corp. of Texas in the Rock Crossing area of Wilbarger County. The deal involved 788.7 acres which had 47 producing wells with a daily average production of around 900 bbls. settled. The consideration was reported to be $550,000 cash.

There are five tracts in the transaction, being Sections 42, 31, 26, 48 and 57, in Block 4, H.&T.C. Survey. In addition to the producing wells there is one well now drilling and several other proven locations to be drilled.

The Gohlke Pool continues to be the chief source of interest in Archer County. While only a few completions were reported from the pool all of them came in with a good initial production with one well making 200 bbls.

Continental Oil Co.'s No. 60 Gose, in the heart of the old Texhoma-Gose Pool in Archer County was drilled to the depth of 1 mile and abandoned. This well, it will be recalled, from time to time was a source of wild rumors to the effect of having encountered excellent oil showings at various depths.

Brown County Activity

One of the most interesting wells in the Ranger district was Midland Oil Co.'s No. 1 Butler in the SE of its 55 acres in the NW part of the Thomas Benson Survey No. 783 in Brown County. This well is near the north line of north central Brown County and extends production about 500 feet. It topped the sand at 1,240 feet and bottomed at 1,296 feet, still in sand. The formation at 1,242-95 feet was shot with 30 quarts and the well responded making 30 bbls. an hour for the first hour and bridged 60 feet off bottom. It is flowing 15 bbls. per hour through the bridge which is being cleaned out 30 feet off bottom.

Most of the activity in Brown County is centered around two pools, the Clark-Buffalo Pool and the Pandem-Hutton Pool. In the former pool, Clark-Buffalo Oil Co. reported three completions on its 11-acre lease. One well was good for 100 bbls., another 10 bbls. and the third was dry. Completions in the Pandem-Hutton Pool were all small wells.

Cranfill & Reynolds and Kelsey's No. 1 Hill, in the Myrum-Mudgett Survey, was completed at 1,299-1,303 feet and made 75 bbls. of oil and 50 bbls. of water initially. This well opened a new pool several weeks ago but when deepened it went into water. It was plugged back and completed. The south offset to this well, however, failed to make as good a well as the discovery well. It was Rosser & Pendleton'e No. 1 Hill which made 10 bbls. of oil and 20 bbls. of water from sand at 1,298-1,304 feet.

Considerable interest is being evinced by operators in the immediate territory around Tannehill Oil Co.'s No. 1 Matthews in the SE cor. of Section 34, and about 5 miles north of Albany. This well came in the latter part of February with an initial production of 372 bbls. from sand at 1,140-55 feet. The well was deepened and is now making 740 bbls. daily.

The combined production of the three districts showed an increase of 1,629 bbls. over the previous week.

WICHITA FALLS DISTRICT

COMPLETIONS

Archer County

Burns and Humble's No. 3 Wilson found the pay at 1,564-67 feet and made 12 bbls. of oil and 3 bbls. of salt water. R. P. Dorian's No. 2 Finnell made 6 bbls. at 680-90 feet. Fain-McGaha and Humble's No. 2 Wilson-C found the pay at 1,558-65 feet and made 95 bbls. Fain-McGaha and Producers Oil Co.'s No. 3 Wilson-B made 194 bbls. at 1,551-69½ feet. D. O. Johnson and others' No. 3 Wilson-A made 80 bbls. at 1,556-64 feet. Same company's No. 2 Wilson-B made 172 bbls. at 1,550-64 feet. Continental Oil Co.'s No. 60 Gose was dry and abandoned at 5,280 feet. Consolidated Oil Co. of Texas' No. 1 Wilson, Block 11, was dry and abandoned at 1,663 feet. Fain-McGaha and Producers Oil Co.'s No. 4 Wilson-B was dry and abandoned at 1,582 feet. Hines and Continental Oil Co.'s No. 1 Helm was dry and abandoned at 1,563 feet. Hines, Troutt and others' No. 1 Andrews was dry and abandoned at 1,555 feet. Riner & Bailey's No. 1 Wilson, Block 101, was dry and abandoned at 1,650 feet.

Cooke County

A. V. Grant and others' No. 1 Dennis was dry and abandoned at 1,501 feet. P. R. Harris' No. 1 Lewis was dry and abandoned at 2,273 feet.

Foard County

Clark and others' No. 1 Atkins was dry and abandoned at 3,502 feet.

Montague County

Bridwell & Heydrick and others' No. 5 McGaughy had oil shows at 1,547-82 feet and 1,589½-96 feet and made 105 bbls. initially. R. I. Carter's No. 3 Bouldin is estimated good for 3,500,000 feet of gas at 754-78 feet. Oil Operators Trust's No. 6 Bouldin is estimated as a 3,000,000-foot gas well at 763-78 feet.

Wichita County

Grayce Oil Co.'s No. 4 Schmisseur made 17 bbls. at 1,806-42 feet. C. H. Clark and others' No. 6 Waggoner found the pay at 979-88 feet and was drilled to 990 feet where it was plugged back to 988 feet and is producing 10 bbls. Coleman & Coppock's No. 5 Kemp & Kempner made 150 bbls. at 846-58½ feet. Same company's No. 7 Kemp & Kempner, Lot 4, made 115 bbls. at 853-59 feet. Holbrook & Woods' No. 1 Kemp & Kempner made 100 bbls. at 852-60 feet. Holbrook & Woods' No. 16 Kemp & Kempner made 110 bbls. at 849-58 feet. Shappell Oil Co.'s No. 15 Kemp & Kempner-A made 12 bbls. at 1,622-28 feet. Vergate Oil Co.'s No. 4-D Watkins made 50 bbls. at 849-63 feet.

The following wells were reported as dry and abandoned: Apple & Brandeberry's No. 1 G. B. Ancell at 1,777 feet. Henry Hobbs' No. 2 Hoge at 1,542½ feet. Kimmell and others' No. 2 Etheridge at 525 feet. The Texas Company's No. 350 W. T. Waggoner at 718 feet.

Wilbarger County

Golding, Cochran and others' No. 1 Waggoner-D made 250 bbls. at 2,376-90 feet. Humble Oil & Refining Co.'s No. 21 Waggoner-H found the pay at 2,370-83 feet and was drilled to 2,694 feet and plugged back to 2,392 feet where it is producing 25 bbls. Phillips Petroleum Co.'s No. 2 Waggoner-O had oil showings at 2,280-88 feet and 2,349-66 feet and was drilled to a total depth of 2,367 feet and made 103 bbls. Same company's No. 18 Waggoner-NN found the lime at 2,572-79 feet was drilled to the total depth of 2,589 feet and produced 31 bbls. of oil and 8 bbls. of water. Same company's No. 23 Waggoner-QQ made 38 bbls. at 1,911-24 feet. The Texas Company's No. 6 Waggoner-B made 141 bbls. at 2,423-34 feet. Boller's No. 1 Waggoner was dry and abandoned at 2,490 feet. Burton and United Oil & Royalty Co.'s No. 1 Waggoner was dry and abandoned at 2,609 feet.

Young County

Allday and Carter's No. 3 McKinley made 62 bbls. at 512-34 feet. Same company's No. 4 McKinley made 85 bbls. at 512-36 feet. Kleiner and others' No. 1 Langston-A made 6 bbls. at 569-81 feet. Pennell Oil Co.'s No. 3 Boone made 160 bbls. at 507-25 feet. Riggs and others' No. 2 McKinley found the pay at 508-26 feet and was drilled to 532 feet and produced 8 bbls. Shappell Oil Co.'s No. 2 Johnson made 40 bbls. at 505-24 feet. Same company's No. 3 Johnson made 50 bbls. at 512-35 feet. The following wells were reported dry and abandoned: Fisher and Gilliland's No. 1 Carter at 1,275 feet. Fuller & Morrison's No. 1 Garner at 700 feet. Kessler & Logan's No. 1 Knox at 1,010 feet. Panhandle Refining and others' No. 1 Pittman-A at 745 feet. Coones & Hotchkiss' No. 1 Eddleman at 2,275 feet. Texas Pacific Coal & Oil Co.'s No. 1 Stinson at 4,640 feet.

NORTH TEXAS
Estimated Daily Average Production for the Week Ending March 24

Panhandle—	
Carson County	6,875
Gray County	15,320
Hutchinson County	44,040
Moore County	60
Potter County	25
Wheeler County	1,000
Total this week	71,260
Total last week	71,320
Decrease	60
Wichita Falls District—	
Archer County	20,454
Baylor County	87
Clay County	474
Cooke County	3,410
Jack County	1,515
Montague County	9,271
Throckmorton County	977
Wichita County	27,161
Wilbarger County	10,896
Young County	10,059
Total this week	84,304
Total last week	82,037
Increase	2,267
Ranger District—	
Brown County	12,335
Callahan County	3,896
Coleman County	1,537
Comanche County	1,288
Palo Pinto County	460
Ranger	9,337
Shackelford County	8,388
Stephens County	8,457
Total this week	45,698
Total last week	46,276
Decrease	578
Grand total this week	201,262
Grand total last week	199,633
Increase	1,629

TEXAS PANHANDLE COMPLETIONS

Week Ending March 24

Carson County

Empire Gas & Fuel Co.'s No. 1-A The Texas Company fee, C NE Section 60, Block 4, I.&G.N. Survey, made 49,000,000 feet of gas at 2,385-2,618 feet.

Gray County

Empire Gas & Fuel Co.'s No. 1 Bender, SE cor. Section 164, Block 3, I.&G.N. Survey, topped the granite wash at 3,143 feet and bottomed at 3,300 feet and swabbed 275 bbls. of 40.8-gravity oil the first 24 hours. Midwest Exploration Co.'s No. 1 L. Holmes, Section 86, Block 3, I.&G.N. Survey, swabbed 1,525 bbls. of 44-gravity oil the first 24 hours from the granite wash topped at 3,110 feet and bottomed at 3,332 feet. Delaney and others' No. 3 W. Jackson, SE cor. NW SW Section 88, Block B-2, was dry and abandoned at 3,018 feet.

Hartley County

J. E. McKanna's No. 1 Francis Farwell was dry and abandoned at 3,635 feet.

Lipscomb County

Cal-Texas Co.'s No. 1 Bradford, C NE NE Section 399, Block 43, H&TC Survey, was spudded and has been temporarily abandoned. Camp Creek Oil Co.'s No. 1 Mrs. H. D. May, Section 612, Block 43, was drilled to the total depth of 2,000 feet, where the well has been temporarily abandoned. Ozark Drilling Co.'s No. 1 Frass, NE SE Section 106, Block 10, H.&T.C. Survey, has temporarily abandoned the rig. Smith, Kinsley & Ruby's No. 1 C. W. Jones, NE cor. SW Section 100, Block 43, had a show of oil at 3,520 feet and was drilled to the total depth of 4,380 feet, where it has been temporarily abandoned.

Ochiltree County

Hamilton and others' No. 1 H. E. Wamble has been temporarily abandoned at 250 feet. McCorkle Pipe Line Co.'s No. 1 R. H. Moore has been temporarily abandoned at 1,600 feet. Montgomery's No. 1 Weinett has been temporarily abandoned at 850 feet. Standard Development Co.'s No. 1 Bowen has been temporarily abandoned at 900 feet.

Wheeler County

Sun Oil Co.'s No. 1 G. Kre., C NW NW Section 127, Block 23, made 55,000,000 feet of gas at 1,934-2,025 feet. Vaughan and others have temporarily abandoned the location for their No. 1 M. Ackley.

RANGER DISTRICT COMPLETIONS

Week Ending March 24

Brown County

Clark-Buffalo Oil Co.'s No. 4 Brown County fee was shot with 4 quarts at 1,085-88 feet and made 10 bbls. Same company's No. 6 Brown County fee found the pay at 1,084-93 feet and made 100 bbls. Cranfill & Reynolds' No. 1 Hill found the pay at 1,299-1,303 feet and was drilled to a total depth of 1,305 feet and the well produced 75 bbls. of oil and 50 bbls. of water. Pndem Oil Co.'s No. 5 Hutton was shot with 5 quarts at 1,166-74 feet and made 40 bbls. Same company's No. 6 Hutton was shot with 30 quarts at 1,115-25 feet and made 30 bbls. Phillips Petroleum Co.'s No. 10 Hickman was shot with 20 quarts at 1,255-65 feet and made 45 bbls. M. L. Richards' No. 4 Curry made 50 bbls. at 1,098-1,115 feet. Roeser & Pendleton's No. 1 Hill made 10 bbls. oil and 20 bbls. water at 1,298-1,304 feet.

The following wells were reported as dry and abandoned: Clark-Buffalo Oil Co.'s No. 5 Brown County fee at 1,202 feet. Gilman & McMurray's No. 4 Hickman at 1,290 feet. Hoffman & Page's No. 1 Smith at 1,452 feet. Kelsey and others' No. 1 George at 1,285 feet. M. L. Richards' No. 3 Hutton at 1,167 feet. J. L. Smith and others' No. 1 Brown at 1,300 feet. E. F. Aldrich's No. 1 Stanley at 524 feet. United Royalty Co.'s No. 1 Cheatham at 856 feet. M. L. Richards has abandoned the location for his No. 2 Hutton.

Callahan County

Manhattan Oil Co.'s No. 1 Johnson was dry and abandoned at 1,300 feet. H. M. Pardee's No. 1 Alexander was dry and abandoned at 1,005 feet.

Coleman County

Canary and others' No. 1 Morris made 5,000,000 feet of gas at 2,251-64 feet.

Eastland County

Lone Star Gas Co.'s No. 3 Anderson was drilled to the total depth of 3,190 feet and is producing 2,250,000 feet of gas from the pay at 3,105-52 feet. McLester & States' No. 1-B Thorp made 80 bbls. after a 45-quart shot at 3,652-74 feet. Adamson & Bearman's No. 4 Rosenquest was dry and abandoned at 1,789 feet. Harbin, Wylie and others' No. 1 Webb was dry and abandoned at 1,258 feet.

Shackelford County

O. P. Deener's No. 1 Harvey made 17 bbls. on the pump at 1,648-52 feet. Prairie Oil & Gas Co.'s No. 2 Proctor was dry and abandoned at 4,465 feet.

Stephens County

Schimmel Producing Corp.'s No. 1 Talle and others made 8 bbls. after a 10-quart shot at 1,836-45 feet. J. L. Thompson's No. 1 Cook was dry and abandoned at 3,650 feet.

TEXAS UNIVERSITY ROYALTY

AUSTIN, Tex., Mar. 24.—Additional royalty checks from six oil companies brought the University of Texas permanent fund up to $8,306,716, and made a total of $146,505 coming so far from February production. Checks were received from Atlantic Producing Co., $11,993; Big Lake, $60,148; Texon, $17,674; Texas, $462; Pecos, $8,315, and Gulf, $3,317.

AMERICAN OIL BURNER ASSOCIATION PROGRAM

(Continued from Page 25)

Oliver W. Ward, of W. W. Ward & Sons.

2:30 p. m.—"Selling Home Comforts," by C. W. Farrar, president The Excelso Products Corp.

3 p. m.—Speaker and subject to be announced.*

3:30 p. m.—"Organizing a Sales Force," by Willis W. Howe, president Willis W. Howe Co.

4 p. m.—"Selling Oil Heating Service Instead of Oil Burners," by W. O. Harvey, president Harvey Whipple Co.

Evening

7 to 11 p. m.—Annual banquet—Grand ballroom.

Toastmaster—President
Introduction of Officers and Directors
Speaker—Edward James Cattell

Following banquet and speaking there will be dancing.

THURSDAY, APRIL 5

9 to 10:30 a. m.—Meeting of Board of Directors—Private dining room No. 4.

10:30 to 12 m.—Meeting Counsellors Oil Heating Institute—Private dining room No. 4.

Manufacturers' Session—South Ballroom

Subject—"Organization and Management"

9 a. m.—Opening remarks by chairman, H. Finnie, general manager, The Timken Detroit Co.

9:15 a. m.—"Time Payments and Their Relation to Retail Oil Burner Sales," by Albert J. Fleischmann, treasurer, May Oil Burner Corp.

10 a. m.—"Why We Have General Trade Practices," by R. S. Beale, national sales director, Electrol Inc. of Missouri.

10:45 a. m.—"The Importance of a Complete Line of Equipment," by H. L Delaney, sales manager, Bunting Iron Works.

11:30 a. m.—"Selecting and Training Dealers," by G. H. Rittenhouse, director of sales, Caloroil Burner Corp.

Dealers' Session—North Ballroom

Subject—"Installation and Service"

10 a. m.—Opening remarks by chairman, William C. Groff, president Kleen-Heet Sales Co.

10:30 a. m.—"The Part Oil Burners Play in Smoke Abatement," by W. F. Schroeder, president Schroeder & Curry.

11 a. m.—"CO_2 and Its Relation to Burner Adjustment," by W. W. Stuart, president W. W. Stuart Co.

11:30 a. m.—"The Relation of the Indirect Heater of Oil Burners for the Heating of Domestic Water," by R. E. Moore, manager, Bell & Gossett Co.

1 p. m.—Exposition hall opens.

11 p. m.—Exposition hall and convention closes.

The Exposition hall will be open:

Tuesday—8 a. m. to 1 p. m. and 5 p. m. to 11 p. m.

Wednesday—8 a. m. to 1 p. m. and 5 p. m. to 7 p. m.

Thursday—1 p. m. to close.

*To be announced on bulletin board, Hotel Stevens.

CHARLES SMITHERS DIES

NEW YORK, Mar. 24.—Charles Smithers, senior partner of the banking firm of F. S. Smithers & Co., is dead in his fifty-fifth year. Mr. Smithers was a director of the Marland Oil Co.

CODE OF ETHICS FOR MARKETERS APPROVED

(Continued from Page 27)

tain time and contains no provisions for termination prior to the end of the contract term by either contracting party. and each refiner, distributor, jobber or wholesaler shall promptly discontinue all efforts which might induce a contracting party to break a contract upon receipt of notice of the existence of the contract.

Group 2 adopted by the conference is accepted by the commission merely as an expression of opinion and is not acknowledged as a guide of conduct as follows:

Rule 6 (formerly Rule 1) Retail Prices—Operators of service stations, filling stations, curb pumps and bulk plants serving consumers shall post conspicuously the prices at which gasoline and motor oils are sold therefrom. Gasoline and motor oils shall be sold to all consumers at the posted price. There shall be no discrimination in prices between consumers.

Rule 7 (formerly Rule 2) Coupon Books—Coupon books, if used, shall be sold and redeemed at their face value, without any discount.

Rule 8 (formerly Rule 3) Gifts or Bonuses—No oil or other thing of value shall be given away on opening days, special sale days, or other occasions.

Rule 9 (formerly Rule 4) Lotteries—Lotteries, prizes, wheels of fortune, and/or other games of chance shall not be used in connection with the sales of gasoline or motor oils, or at places where gasoline and motor oils are sold.

Rule 10 (formerly Rule 7) Equipment and Advertising Rentals—Refiners, distributors, jobbers and wholesalers shall not rent from any dealer or consumer any delivery equipment and shall not purchase from any dealer or consumer any delivery equipment for more than its actual value.

Rule 12 (formerly Rule 11) Bulk at Plant Deliveries—The practice of making deliveries of gasoline at wholesales plants into tank wagons or trucks operated by or for the purchasers thereof is discouraged. When such deliveries are made the price of the product shall be the posted tank wagon price less cost of handling by purchaser, provided, however, that the allowance to be deducted from the posted tank wagon price for handling by purchaser shall not exceed one (1) cent per gallon.

Group 3, which follows, was disapproved:

Rule 13 (formerly Rule 12) Tank Wagon Deliveries to Motor Vehicles—Deliveries of gasoline shall not be made from tank wagons or trucks into the fuel tanks of automobiles or other motor vehicles.

Rule 14 (formerly Rule 14) Credit Extension—No refiner, distributor, jobber or wholesaler shall give to a dealer doing business with a competitor a greater extension of credit than that allowed by the competitor for the purpose of inducing the dealer to cease doing business with the competitor.

The foregoing rules resulted from a trade practice conference in the petroleum industry in the State of Virginia, at which Commissioner Edgar A. McCulloch presided and held at Richmond, May 25, 1927.

At the conference a committee was appointed to promulgate a plan to remove practices then prevalent in the marketing of petroleum in Virginia which the committee there regarded as detrimental to the industry. As a result of this conference the foregoing rules have received consideration by the Federal Trade Commission and been approved so that so long as they are followed the oil companies need not fear being called to account by the commission.

At the conclusion of the conference its members adopted a resolution declaring that they "were disposed to follow this agreement if it is lived up to by all marketers" also that the companies participating in the conference reserved to themselves the right to meet competition of competitors employing any practices violating this agreement or employing unfair practices. This resolution was disapproved by the commission in respect to these qualifications indicating conditions under which the members would not follow the rules they agreed to.

Those who attended the conference were the following:

Jacob Blaustein, American Oil Co., Baltimore, Md.; H. B Stone and Yale Schecter, Atlantic Refining Co., Philadelphia, Pa.; Overton D. Dennis, Dominican Oil Co., Richmond, Va.; G. G. Hopkins, Hampton, Va.; J. L. Krause, O C. Maphis, Harrisonburg, Va.; T. Gray Haddon, attorney, National Oil Co., Richmond, Va.; J. B. Blackburn, general manager, and Allen G. Collins, counsel, Seventh Street Garage Corp., Richmond, Va.; Edward S. Hall, attorney, Standard Oil Co., New York City; William A. Stoll, attorney, Stoll Oil Refining Co., Louisville, Ky.; M. T. Klein, counsel, W. Bruce, vice president, William Thompson, district manager, Norfork, Va.; The Texas Company, New York City; J. E. Thomas, Thomas Oil Co., Marian, Va.; H. M. Garrison, Tide Water Oil Co., Philadelphia, Pa.; Mr. Van Horn, J. B. Belk, president, W. M. Eller, secretary, J. B. Blackburn, Virginia Independent Oil Men's Association, Charlottesville, Va.

GAS CONSERVATION AIDS REPRESSURING

(Continued from Page 29)

up to date are in the southern part of the State. The California Petroleum Corp. recently started to repressure its Shiells lease in Ventura County by utilizing the excess production of natural gas from its several properties in the South Mountain Field and the success attained guarantees a continuance of this work. Five key wells were selected on the Shiells lease and the production of surrounding producers was doubled as soon as the gas was injected into these "five spot" locations. Repressuring is not general in the northern part of the State but practically every field has one or more gas lift systems in operation. The Riverside Gilmore Oil Co. and the Palmer Union interests have both experienced considerable success with the gas lift in the Santa Maria Field and the heavy oil characteristic of this district has responded to this artificial stimulation to a surprising degree. It is quite evident from the foregoing that gas conservation is becoming general in California and as time goes on this phase of the industry will become of still greater importance especially when operators begin to realize that they can obtain maximum results by mutual co-operation.

It is the prevailing opinion at the present time that it is not possible to repressure fields where there is a diversity of holdings and while this may be true of town lot areas there are several fields in California which will eventually receive the benefits accruing as a result of scientific application of repressuring work. Elk Hills, for instance, could be blocked out and each of the operators in that area should be more than willing to advance both repressuring and gas lift operations as it would be mutually profitable. The productive acreage of the Elk Hills Field is held by a relatively small number of operators, Standard, Associated, Union, Pan American, Belridge Oil Co. and United States Navy Department, and this problem is not as difficult of solution as might appear on the surface. It might be necessary to purchase natural gas from operators of other fields not entirely susceptible to conservation work but this would pay out in the long run from increased yield and protection against additional edgewater encroachment. Natural gas purchased to say 10 cents per 1,000 feet for use in repressuring or gas lift work is a good investment especially in view of the fact that the additional crude oil and natural gasoline recovered, even though relatively small in this case, would offset the cost of the natural gas which incidentally would still be available for other cycles.

Heavy Crude Curtailment

The movement to curtail the production of heavy crude oil in several fields initiated almost simultaneously with the gas conservation program, has not yet gained sufficient momentum to insure its success, notwithstanding the fact that a producers committee has been steadily at work for about 60 days. All of the major producers agree that something must be done to prevent the consistent increase in stocks of heavy crude and fuel oil but lease requirements and other obligations have so far prevented a general agreement. All producers of heavy crude have been asked to co-operate by temporarily suspending or reducing production but up to date no one has been killed in the rush to comply with this request. The West Front section of the old Kern River Field has been subjected to a close scrutiny and while it was thought that a very substantial curtailment of heavy crude could be effected in that area it is doubtful if the anticipated restriction will exceed 25 per cent of the original estimate. Water intrusion precludes any hope of an additional curtailment in the old section of the Kern River Field but the West Front area which has only been on production for a couple of years offers exceptional possibilities for artificial curtailment if property owners and producers could get together on a common ground. The West Front is producing a little better than 18,000 bbls. per day of heavy unrefinable crude which has very little value except for fuel oil purposes and it would be a great help if this oil could be kept in the ground until conditions improve. It looks like a hopeless task, however, although all of the major companies have cut down their development work preparatory to a general suspension of drilling as soon as minimum lease requirements have been fulfilled.

The outcome of the statewide attempt to curtail the production of heavy crude is problematical although it is a foregone conclusion that it will not be anywhere near the original estimates as the major companies are about the only ones willing to pinch in or suspend operations. The California Petroleum Corp. and the Shell will undoubtedly cut down their production in the Coalinga Field as soon as the final details have been worked out unless of course the present movement falls through. When the curtailment committee originally started out it was the intention to shut in approximately 100,000 bbls. per day of heavy crude but this was later modified as a survey indicated that this goal was impossible of attainment due to a number of factors involved. The projected curtailment suffered another modification a little later and while there will undoubtedly be some additional crude oil shut in this will depend upon developments during the next 30 days. It is imperative that heavy oil production be restricted as refiners cannot go on storing heavy crude and fuel oil indefinitely. An additional 617,840 bbls. were added to storage during the month of January and this accumulation will probably continue for the greater part of the current year unless export tanker shipments can be stimulated. Not a barrel of commercial fuel oil has left California for the Gulf Coast or Atlantic Seaboard since the latter part of last year and it is not likely that there will be any change in this situation due to increased importations of Venezuela oil. A total of 2,214,119 bbls. of fuel oil had been tankered to the east coast at this time last year. Intercoastal shipments of Diesel and gas oil are also considerably lower this year, the current liftings to date being 449,739 bbls. as compared with 1,019,661 bbls. at the same time last year.

Production in Sight

If operators succeed in shutting in another 50,000 bbls. per day of heavy crude oil the local situation would be considerably improved but if the present movement fails California will probably close 1928 with a lot more heavy crude and fuel oil in storage and a daily average production for the year in excess of 600,000 bbls. The big parade at Long Beach is scheduled to start in the very near future and the production of this field may increase another 50,000 bbls. before reaching the 1928 peak along about May or June. Production will naturally decline after the approaching high point has been reached but the large number of drilling projects under way and the great thickness of producing formation will probably prevent any very rapid drop. The Rincon Field located approximately 6 miles west of the prolific Ventura Avenue Field will probably also show increased production before the current year draws to a close and while there is a tendency to minimize the local situation due to the possibility of an additional substantial curtailment we should

not get too optimistic as increased production of crude oil and smaller shipments of fuel oil are not conducive to a general permanent improvement. Any improvement in the local situation at this time will be an artificial one due to crude oil curtailment and conditions could be upset over night by the opening up of wells shut in or the initiation of a deepening campaign in any of the fields which have dormant lower horizons awaiting development. Approximately 90,000 bbls. per day of light and heavy oil is curtailed in the Coalinga, Kern River, Mount Poso, Round Mountain, Midway-Sunset, Elk Hills, Santa Maria, Brea Olinda, Coyote and Ventura Avenue fields, the greater part of which has been shut in for more than two years. This restriction in production indicates a wonderful spirit of co-operation but the overproduction threat is still there as long as the potential production with everything wide open exceeds the demand.

WEST TEXAS FIELDS

(Continued from Page 36)

Hooks, located on the SE NW N half of Section 140, Block 29, W.&N.W. Survey. F.H.E. Oil Co.'s No. 2 Dora Roberts-D pumped 40 bbls. at 1,308-25 feet. Same company's No. 1 Roberts-E pumped 20 bbls. at 1,313-26 feet. Magnolia Petroleum Co.'s No. 10 Kelly Chalk found the pay at 1,620-41 feet and swabbed 45 bbls.

Taylor County

Owens & Sloan's No. 1 Lattimer, Section 14, Block 9, T.&P. Survey, has been drilled to 3,011 feet, where the pipe is being pul'ed to abandon. Gilbert Johnson and Day Brothers' No. 1 C. M. Brown, Section 1, Block 6, T.&P. Survey, has been shut down at 3,003 feet, the contract depth.

Winkler County

Murchison Oil Co. and Cranfill Brothers' No. 4 Grisham-Hunter-B topped the pay at 2,945 feet and bottomed at 3,087 feet with an initial production of 100 bbls. The well was shot with 210 quarts at 2,830-3,030 feet and made 500 bbls. Pure Oil Co.'s No. 2 Hendricks topped the first pay at 2,657 feet and the big pay at 2,875 feet, and was drilled to a total dep'h of 2,889 feet, where the well made 500 bbls., pinched. The well was drilled deeper to 2,938 feet and made 3,500 bbls., 65 per cent b.s. and water. Southern Crude Oil Purchasing Co.'s No. 3 Ida Hendricks, T-67-F, topped the pay at 2,980 feet and bottomed at 3,050 feet, and was shot with 310 quarts at 2,940-3,020 feet and made 1,100 bbls., 8 per cent water and b.s. Same company's No. 4 Ida Hendricks, T-67-F, topped the pay at 2,985 feet and bottomed at 3,035 feet and had an estimated production of 850 bbls., 5 per cent water. Texon Oil & Land Co.'s No. 1 Hendricks-B topped the pay at 2,863 feet and bottomed at 2,990 feet. This well had a gas show at 2,863 feet and an oil show at 2,870 feet and had an initial production of 6,875 bbls. Turman & Maxwell's No. 4 Hendricks topped the pay at 2,755 feet and bottomed at 3,033 feet. The well flowed by small heads at 2,791 feet, with an increase of oil at 2,832 feet, and after a 90-quart shot had an estimated intiial production of 700 bbls.

GULF COAST MARKETS QUIET DURING WEEK

HOUSTON, Tex., Mar. 27.—Although Monday and Tuesday rumors were afloat among Gulf Coast refiners of several substantial inquiries for bulk lots of lubricating stocks, up to this time very little important business had been placed during the previous week. The week as a whole was quiet except for a slightly increasing demand for the heavier grades and a seasonal slackening in the lighter grades. During the week there apparently were no price change tendencies.

Substantial withdrawals from stocks the past few weeks placing refiners in a good position is tending to prevent any price declines in the lighter grades, while the demand for the heavier grades has not actually increased sufficiently yet to justify any immediate increase in the heavier grades. Fuel oil and gas oil were unchanged. The general weakness prevailed in the former with an exceptionally light demand, while gas oil prices were steady, due to the limited quantities offered on the spot market.

PETROLEUM DIVISION OF A.C.S. TO MEET IN ST. LOUIS APRIL 17-19

The Division of Petroleum Chemistry of the American Chemical Society will meet in St. Louis, April 17-19, inclusive, in connection with the Seventy-Fifth Annual Meeting of the society. Twenty-one papers will be presented at the meetings of the petroleum division.

The papers cover a variety of subjects of special interest to those engaged in the refining and testing of petroleum products. On the opening day R. E. Wilson of the Standard Oil Co. of Indiana will lead a round table discussion on lubrication. The industrail division will take part in this discussion.

J. Bennett Hill of the Atlantic Refining Co. is chairman of the petroleum division. Carl L Johnson of the Manhattan Oil Co., Kansas City, is secretary.

Following is the program announced for the three-day meeting:

Tuesday, April 17, 2 P. M.

In session with the industrial division.

R. E. Wilson. Round table discussion on lubrication.

Wednesday, April 18, 9:30 A. M.

S. M. Diggs and S. F. Campbell, "Chemistry of Lead 'Soaps' Made From Litharge and Neutral Petroleum."

W. M. Faragher, J. C. Morrell and I. M. Levine, "Determination of Olefine and Aromatic Hydrocarbons."

M. C. Alderman, "An Analytical Method for the Separation of Bright Stocks and Neutral Oil Mixtures."

Stuart M. Rodgers and Linden R. Adkins, "A Micro-Saybolt Type Viscosimeter."

Cal B. Coats and George G. Brown, "The Vapor Pressure of Hydrocarbons."

Wednesday, April 18, 2 P. M.

Discussion of A.P.I. projects, led by members of the central petroleum committee of the National Research Council.

Gladys E. Woodard, "The Use of Organic Solvents for the Extraction of High Sulphur Oils From Crude Petroleum."

Gladys E. Woodard, "A Volumetric Method for the Estimation of Sulphur in Crude Oils; An Adaptation of the Nikaide Method."

Gladys E. Woodard, "Silica Gel as a Reagent for the Extraction of High Sulphur Oils From Crude Petroleum."

Charles D. Hurd and Leroy U. Spence, "The Pyrolysis of n-Butane and iso-Butane."

S. C. Lind and George Glockler, "The Action of Electrical Discharge on Ethane."

Thursday, April 19, 9:30 A. M.

H. S. Davis, "Problems in the Analysis of Unsaturated Hydrocarbon Mixtures."

Robert N. Pease, "Thermal Decomposition and Oxidation of the Simpler Hydrocarbons."

P. Bergatron, L. M. Ellis, Jr., and E. Emmet Reid, "Reaction of a Variety of Known Mercaptans in a Naptha Solution with the 'Doctor' Solution."

F. E. Bartell and F. L. Miller, "Displacement of Petroleum Oil From Oil-Bearing Sands—1. The Degree of Wetting of Silica by Crude Oils."

A. Skinner and G. C. Brown, "True Volatility From the A. S. T. M. Distillation."

Robert A. Baxter, "The Refining of Shale Gasoline."

Thursday, April 19, 2 P. M.

Robert A. Baxter, "The Effect of Variations in Retorting Conditions on the Quality of Oil Produced From Shales."

G. C. Brown, "Antiknock Testing."

J. C. Geniesse and H. F. Huff, "Effect of Volatility of Petroleum Fractions on Detonation Value."

M. Garcia, "Heat Tranefer in Oils Flowing Through Pipes."

D. C. Bridgeman, "Dew Points of Air-Gasoline Mixtures From Distillation Curves."

Late Fields

(Continued from Page 36)

several Trinity wells that have been drilled in Cotton Valley prior to this one have all been gas wells and at somewhat shalllower depths.

The Woodley Petroleum Co.'s No. 1-B Cox, Section 23-21-10, made 3,000,000 feet of gas, 200 bbls. salt water and 40 bbls. 48 gravity crude from 4,737 feet and is shut down after cementing back to cut off the water and testing 3,000,000 feet of gas at 4,590 feet.

Pure Oil Co.'s No. 1 Gregory, Section 10-17-14, Union County, Arkansas, Champagnolle district, is making 250 bbls. of clean oil, 32.9 gravity, from sand at 3,212-24 feet. Simrall and others' No. 1 Finley, Section 12-17-14, made 2,000,000 feet of gas at 3,172 feet. Drilled to 1,379 feet it ran into a salt water flow.

M'CAMEY-INGLESIDE LOOP

SAN ANTONIO, Tex., Mar. 27.—Humble Pipe Line Co. completed looping its pipe line form McCamey to Ingleside last Wednesday and is now testing it. Capacity has been increased to 70,000 bbls. daily.

DEEP TEST NEAR MEXIA

MEXIA, Tex., Mar. 24.—A joint test of the deep horizons will be started soon just west of the old Mexia Field. The E. L. Smith Oil Co., Magnolia Petroleum Co. and Humble Oil & Refining Co. have made a contract with C. F. Lytle of Mexia for a 6,000-foot deep test to be located on the J. L. Thompson 147-acre tract 900 feet north and west of the deep test drilled last year by the E. L. Smith Oil Co., Magnolia Petroleum Co. and J. K. Hughest Development Co. and W. A. Reiter. The first deep test found a 15,000,000-foot gas production with a spray of oil at 5,738 feet. The well could not be deepened because of casing trouble. It was completed as a gas well, although it produced about 10 bbls. of oil per day. The Trinity sand is the real objective of the test to be started on the Thompson farm.

MUSKEGON FIELD

By Special Correspondent

MUSKEGON, Mich., Mar. 27.—After completion of the West Michigan Oil Syndicate's No. 1 Marquard had resulted in bringing in the fourth duster of seven completions since the field was opened, the Dixie Oil Co.'s No. 1 Reeths came in at 1,625 feet with a daily flow of about 5,000,000 feet of gas and 40 bbls. of oil. The well is to be drilled deeper in an attempt to increase the flow of oil. This well is about 600 feet directly south and on the flats 44 feet below the discovery Reeths well of the Muskegon Oil Corp. It is but 580 feet west of the Lima Oil Corp.'s No. 1 Figge which last week developed into the biggest gas well in Michigan with a daily flow of 5,000,000 feet. Drilling on the Lima well was stopped at 1,608 feet.

OKLAHOMA FIELDS

The Greater Seminole area produced 287,382 bbls. from 1,083 wells for the 24 hours ending Tuesday at 7 a. m. The production by pools was:

	Bbls.
Little River	40,005
Bowlegs	79,088
Earlsboro	95,613
Seminole	55,125
Searight	17,541
Total	287,372

There were several light wells completed in the area. Continental Oil Co.'s No. 4 Cosar, Section 36-8-6, swabbed 500 bbls. in 12 hours from sand 4,232-41 feet. Independent Oil & Gas Co.'s No. 3 Davis, SE cor. SW SE, Section 2-7-6, swabbed 550 bbls. in 24 hours from sand 4,248-64 feet. Sinclair Oil & Gas Co.'s No. 3 Sango, NE cor. SE NE, Section 2-9-5, swabbed 475 bbls. from sand 4,429-39 feet. Barnsdall Oil Co.'s No. 8 Ingram, NE cor. NW SW, Section 1-9-5, is swabbing 138 bbls. from the Earlsboro sand found 3,615-38 feet.

After several weeks' drilling in the Wilcox sand, The Texas Company's No. 1 Reed, SW cor. SW, Section 12-8-5, is declared dry and abandoned at 4,730 feet.

The two producing wells south of the Little River Field are showing little change in output. Snowden & McSweeney's No. 1 Tiger, in Section 13-7-6, is making 2,953 bbls. The Independent Oil & Gas Co. and Highway Oil & Refining Co.'s No. 1 Harris, in Section 23-7-6, is making 2,656 bbls.

Two important drilling operations are mentioned below. The Prairie Oil & Gas Co.'s No. 1 Varnum, NW cor. SW SW, Section 5-9-6, which is drilling in a formation thought to be Wilcox sand, but which has not been identified. The formation was found 4,436-41 feet with nothing showing. This well is running slightly low. The Amerada Petroleum Corp.'s No. 1 Gravel, SW cor. SE NE, Section 1-8-4, is swabbing 100 bbls. from Sylvan shale 4,240 feet. This well has been very closely watched.

In the St. Louis-Pearson Switch area of Pottawatomie County, the Seminole Petroleum Co.'s No. 1 Brown, NW cor. NE NE, Section 22-7-4, is making 170 bbls. from the Hunton lime found 3,713-40 feet. The Pierce Petroleum Co.'s No. 1 Sanders, NW. cor. SW, Section 20-7-4, had the Hunton lime 3,814-50 feet, and is swabbing 115 bbls.

BUY BORDER GAS LINE

SAN ANTONIO, Tex., Mar. 27.—Southern Gas Co. interests have acquired Border Gas Co. pipe line and distributing system at Laredo and will link it with the system over southwest Texas including Houston Gulf Gas Co. line and Dixie Gas Co. line.

KANSAS

Several new wells in Kansas have caused added interest in the Oxford Townsite Pool. Wasson and others' No. 7 Gassoway, SW cor. SE SW Section 14-32-2, is making 1,100 bbls. after a shot of 160 quarts in the Stalnaker sand found 1,984-2,104 feet. The Barnsdall Oil Co. and Palmer's No. 3 Wenrich, NW cor. NE NW Section 23-32-2, made 800 bbls. naturally when completed some weeks ago. It was shot this week with 20 quarts and is flowing 1,490 bbls. daily. No. 4 Wenrich, NE cor. NW NW Section 23-32-2, is good for 1,520 bbls. after a shot of 80 quarts in sand 2,000-14 feet. The Barnsdall Oil Co. and Palmer now have 3,800 bbls. from four wells on this lease.

In the same pool, the Roxana Petroleum Co.'s No. 2 Barnes, SE cor. SW SW Section 14-32-2, which started flowing 4,000 bbls. daily last week, is now making 3,200 bbls. The total depth is unchanged, 2,112 feet.

CURTAILMENT PLAN FOR PEARSON SWITCH AREA

A meeting of all operators having holdings in the St. Louis-Pearson Switch region of Pottawatomie County has been called by Umpire Ray M. Collins, and will be held in Tulsa on Friday, March 30.

Definite plans for restricting this region have been worked out by the Seminole advisory committee and the umpire, and have been approved by the majority of those interested. The plans call for the limitation of production in any sand, instead of confining restriction to the each region will be permitted to flow wide Wilcox formation. The discovery well in open until offset wells reach the sand, after which the discovery well and the

offsets will be pinched in to 50 bbls. daily.

The performance of three wells in this region caused this action; the McCulloch Oil Co. and the Mid-Continent Petroleum Corp.'s No. 1 Smith in Section 25-7-4, the Gypsy Oil Co. and Westheimer & Daube's No. 2 Leclaire in Section 23-7-4, and the Magnolia Petroleum Co.'s No. 2 Robbins in Section 15-7-4. The first two wells are flowing from the Simpson sand and the last from the Hunton lime.

It is reported that the operators have all agreed to the terms of the plan, and have signified their intention of signing the agreement.

NEW GULF COAST FIELD IN FORT BEND COUNTY

HOUSTON, Tex., Mar. 27.—Humble Oil & Refining Co. opened a new Gulf Coast oil field Tuesday morning when it bailed in its No. 1 Sugarland Industries, flowing 150 bbls. of fluid of which 25 per cent was oil and the remainder wash water. The fluid showed no salt water. Production is from a sand at a total depth of 3,536 feet.

After cleaning itself out the well started flowing at the rate of 1,000 to 1,200 bbls. daily. The oil tests 26 gravity.

The well is on what is known as the DeWalt Dome in Fort Bend County, about 20 miles southwest of Houston. It is in the William Stafford Survey, 150 feet from the south line and 1,250 feet from the west line of the tract.

The finding of oil at DeWalt establishes a record for opening of salt dome fields in that this is the first test drilled and also that the prospective dome was discovered only by geophysical work conducted by H. C. Cochran, who turned his rights over to the Humble. The latter company owns the entire acreage around the dome.

The Lockport Field of Calcasieu Parish, Louisiana, came back into the limelight late Monday when the Vacuum Oil Co. and Gulf Refining Co.'s joint No. A-1 fee was bailed in flowing at the rate of 3,000 bbls. of oil daily. Production is from a sand at 2,900 feet. The well originally was drilled to 5,798 feet, but in sidetracking encountered a sand at shallower depth not previously touched. The well, however, is not holding up.

Sun Oil Co.'s No. 1 Abshier, in the mile-north extension of the South Liberty Field, was brought in late Monday flowing at the rate of 300 bbls. of 30-gravity oil daily from sand at 1,936-47 feet. Abercrombie & Harrison's No. 1 Lacour, 50 feet west, also was brought in flowing by heads 300 bbls. daily, but from sand at a total depth of 2,780 feet. Sun Oil Co.'s well was bailed in late Friday but made only a few small heads and stopped flowing. Screen was reset and the well bailed again.

HUMBLE PIPE LINE CO. WINS MUSTANG SUIT

AUSTIN, Tex., Mar. 24.—The Humble Oil & Pipe Line Co. has a legal right to go on the islands belonging to the State and into the waters of the coastal bays and lay an oil pipe line without specific permission from the legislature or any agency of the State government, it was held when the Supreme Court refused a writ of error in the case of the State vs. Humble company.

This ends the litigation in favor of the Humble company, as the policy of the State is never to appeal to Federal Courts.

The Humble company now is free to resume construction of its pipe line under the Corpus Christi ship channel and beneath the waters of Corpus Christi Bay and across Mustang Island to loading berths in the Gulf of Mexico, thereby avoiding the ports of Corpus Christi and Ingleside, now being used by tankers.

It has been unofficially reported to the State Game, Fish and Oyster Department that the Humble company is considering an abandonment of its plan to build loading racks for oil vessels in the waters of the Gulf off Mustang Island, and instead place its loading berths on Harbor Island and use the Port Aransas turning basin for the tank ships.

There is a 25-foot depth at this point and this could be dredged deeper to accommodate the tankers. That would obviate the necessity of building the pipe line across Mustang Island and into the waters at the edge of the Gulf.

This change would meet with favor at the Game Department for it is believed that by using rigid loading racks or wharves in a harbor there would be no leakage or waste to pollute the waters and destroy fish life. The Game Department is concerned over the possibility of leakage from the proposed Gulf loading berths. If it occurred the oil would destroy millions of commercial fish and marketable shrimp and oysters, which abound in the adjacent waters, Game and Fish Department officials said.

Using the Port Aransas facilities and Harbor Island would mean an amicable solution. The question of pollution was not involved in the case just decided. The latest threat of the State is to sue under the antipollution statute to save and conserve the fish life. This may be obviated by the plan reported.

ENGINEERS DISCUSS PAPERS READ AT NEW YORK MEETING OF A.I.M.E.

At a meeting of the Mid-Continent Section of the American Institute of Mining and Metallurgical Engineers held in Tulsa, March 23, several oil field papers were discussed. The papers had been presented at the annual meeting of the Institute held in New York last February.

Among the most interesting were comments on two papers, "Water Flooding" and "Water in the Bradford Field," by Paul D. Torrey. These papers were discussed by R. Van A. Mills, of the United State Bureau of Mines. A paper by Prof. Lester C. Uren, entitled "Laboratory Experiments on Water Flooding," was also discussed by Mr. Mills.

Considering the paper by Professor Uren, Mr. Mills remarked that the results should be considered as laboratory results only, and that they were not indicative of conditions which might be met in the field. The work done was small-scale experiments, and upright glass tubes were used. The oil and water were forced perpendicularly through the tubes, and this is contrasted with flooding in actual field practice where the water is forced horizontally through a sand, Mr. Mills stated.

Commenting upon Professor Uren's claim that soda ash gave good results in this work, Mr. Mills stated that in spite of much agitation for a wider use of soda ash in water flooding, the results did not warrant this system, and that in the Bradford Field today, many wells were being plugged on account of the use of soda ash.

Mr. Torrey's papers were unusually interesting, and in reviewing them, Mr. Mills commented that the results obtained in the Bradford Field were exceptionally profitable, and that in a certain measure they were due to local conditions.

A paper entitled "Repressuring Early in the History of a Field," by E. V. Foran, was discussed by C. E. Beecher, of the Empire Companies. This paper dealt with the introduction of repressuring agencies early in the productive life of a field, and the discussion revealed many novel results regarding direction of movement of the air and gas which was used in this work.

Other papers discussed were "New Developments in the Gas Lift," by C. V. Millikan and, "Experiments on Sucker Rod Strain and Stresses," by L. W. Lake and H. A. Brett. Both of these papers were discussed by Mr. Millikan.

A paper entitled "Recent Developments in Gas Lift and Repressuring Methods in California," by A. N. Bell, was discussed by R. R. Brandenthaler of the United States Bureau of Mines.

STORAGE FACILITIES IN HENDRICKS POOL

HOUSTON, Tex., Mar. 24.—Additional storage facilities are to be provided in the Hendricks Field of West Texas by the Humble Oil & Refining Co., Gulf Production Co. and the Landreth Production Corp. The Humble company has purchased steel for 31 new 64,000-bbl. tanks to be erected on its farm site in Section 8, Block 5, of the P.S.L. Survey. The Gulf company will erect 20 new 80,000-bbl. tanks on its farm in Section 34, Block 5, P.S.L. Survey, while the Landreth corporation will build 25 new 80,000-bbl. tanks, 5 in Section 29 of this block and 20 at Monahans.

In addition to this provision for West Texas crude, Southern Crude Oil Purchasing Co. has announced completion of its new 6-inch line from the field. This company now has two 6-inch lines and one 8-inch line from Winkler County.

Atlantic Pipe Line Co. is installing five more pumping units on its line from the field. This will boost the capacity to 50,000 bbls. daily. This is the line in which Magnolia Pipe Line Co. is cooperator.

Humble Pipe Line Co. is rushing work of looping its 8-inch line from Winkler County to McCamey.

GILLILAND-M'MAN TRANSFER SUSTAINED

NEW ORLEANS, Mar. 24.—Transfer of 198.1 acres of land in Wichita County, Texas, valued at $1,000,000 from Gilliland Oil Co. to the McMan Oil & Gas Co. in 1921, was upheld by the United States Court of Appeals here.

P. J. Hurley and others, receivers of the Gilliland company, brought suit against the McMan company to have the transfer set aside, alleging that the conveyance had been executed by fraud in that it never was approved by the board of directors of the Gilliland company.

In the District Court of the northern district of Texas, the receivers were awarded the decision but the Court of Appeals reversed the lower court and remanded the case with directions to dismiss the bill of complaint.

The bill of complaint filed by the receivers, recited that John W. Gilliland, president of the company, asked James A. Chapman, president of the McMan company, to buy the company's interest in the land for $1,000,000. This was done and the receivers alleged that the price was inadequate and accepted merely to cover overdrafts.

Approval of the transfer was given by the board of directors, the Court of Appeals ruled, stating that this was shown by a certified report of the board's secretary. The price also was held to be fair because of depression in the oil market.

NOT TRUE, SAYS ROXANA

Notwithstanding denials from the St. Louis headquarters of the Roxana Petroleum Corp., the report persists in West Texas and in Houston that the Shell Pipe Line Corp. has purchased right of way for a 10-inch line from Winkler County to the Houston area, which is taken to mean that the Roxana Petroleum Corp. is figuring on the early construction of a refinery in the Houston district.

K. F. GOODWIN DIES

LOS ANGELES, Calif., Mar. 24.—K. F. Goodwin, formerly vice president of the Santa Maria branch of the Los Angeles-First National Trust and Savings Bank and widely known throughout Santa Barbara County as a pioneer in the Santa Maria oil fields and organizer of the Pinal Dome Oil Co. in 1902, died recently following a short illness.

GEORGE H. JACQUES SUCCEEDS A. W. PEAKE

SHREVEPORT, La., Mar. 24.—Mrs. N. M. Hancock, who has resigned as vice president of the Dixie Oil Co., was reputed to be the highest ranking woman executive in the oil industry. She retains the presidency of the Omega Oil Co., a mineral holding subsidiary of the Dixie company. She has been succeeded by A. W. Peake, former production superintendent of the Midwest Refining

GEORGE H. JACQUES

Co., another subsidiary of the Standard Oil Co. of Indiana, whose place has been taken by George H. Jacques, formerly assistant general superintendent.

Col. R. W. Stewart resigned as chairman of the board of directors of the Dixie company because of press of business and E. J. Bullock of the Standard of Indiana has succeeded him. F. H. Wickett has resigned as president of the Dixie company.

Mrs. Hancock has been an oil company executive for 11 years, having been secretary of the old Dixie Oil Co. before it was purchased several years ago by the Standard of Indiana.

GEOLOGISTS HOLD IMPORTANT SESSIONS

(Continued from Page 27)

petent geological advice before locating similar structures in any part of the country and suggested that in such a way similar disasters might be averted.

At the business session Thursday afternoon, the general business committee reported through its chairman, C. R. McCollom, that it had passed resolutions approving changing the fiscal year to agree with the calendar year; increasing life memberships to $300; replacing regional directors by a business committee, and approving the executive committee's action on the revolving publication fund.

Paleontologists Meet

During Thursday, meetings were held by the Society of Economic Paleontologists and mineralogists, an affiliated society of the association. Many excellent papers were presented and the following officers were elected: President, Raymond C. Moore; vice president, G. Dallas Hanna; secretary-treasurer, Fred B. Plummer, and editor, Joseph A. Cushman.

Entertainment and relaxation were provided for visitors at the dinner-dance Thursday night at the Fairmont Hotel. Several professional singing and dancing acts enlivened the evening and were appreciated by the large number of guests.

California fields were featured during Friday's sessions. Many of the papers were profusely illustrated by lantern slides and proved of great interest to visitors from the East. Considerable discussion was evoked from local members in attendance and indicated that a diversity of opinion exists in California as elsewhere.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

PROPERTIES AND USE OF GRAPHITE

Is there any real lubricating value to graphite? Will you give me a list of what are considered to be the practical values and the uses made of this material? What is soluble graphite?—S. C. L.

Graphite is the most important of what are known as solid lubricants. It is extensively used for the lubrication of heavy machinery. It has an important value for the lubricating medium in the machinery used in several special industries; because it does not give an oily stain to delicate fabrics, such as lace, or impart an odor to materials used in foods.

Graphite is not soluble under ordinary circumstances in anything, is not acted upon by acids nor alkalies. Temperature conditions do not influence its lubricating service, so it may be used either at low or high temperatures.

It is one of the forms of the element carbon, and unlike the other forms, is quite soft, with a low friction coefficient. It adjusts itself to any rough spots in the surface of the wearing parts, adheres well to the surface, thus preventing metal to metal contact, and deposits a uniform and continuous film which materially reduces friction. These properties make graphite a very valuable lubricating medium.

There is no soluble form of graphite, in the true meaning of the word soluble. Mixtures of it and grease are made, and it is often added to heavy lubricating oil. There is a mixture of graphite known as deflocculated graphite. This is a special preparation in which the graphite exists in the collodial condition; but the exact details of the process for making this product have not been published. It is reported to be made from an electrolytic graphite, that is, a graphite made in an electric furnace, which is intimately mixed with water and tannic acid so that the particles of the graphite are reduced to an exceedingly small size. These small particles become surrounded with an envelope of organic matter so that the graphite remains suspended in the liquid. This kind of prepared graphite is marketed in the form of a paste which when mixed with water will remain in suspension for a long period.

HUMIDITY OF AIR AND WATER FROM NATURAL GAS

What causes walls to sweat where natural gas is used for heating? Also what remedy if any can be applied?—R. M. W.

There are two sources for the water which collects on the cold walls of a room. These are the atmosphere and the burning gas.

When air contains all the water it is possible for it to hold at some fixed temperature it is said to be at the dew point; that is, the atmosphere is saturated with moisture. The quantity of water that may be carried in the air increases with rising temperature. At 90 degrees the quantity of water is approximately twice that which is required to saturate the air at 70 degrees. When the air in a room is saturated with water, and the temperature falls from 90 to 70, there will be some water precipitated. The outside walls of a room may be much colder than the average temperature of the room so the water is separated from the air at this place. The same condition explains why water collects on the outside of a metal vessel filled with ice water.

Water is one of the products of combustion of the hydrocarbons Natural gas contains a comparatively large quantity of combined hydrogen, which unites with the oxygen of the air to form water when it is burned. Under some conditions, especially when the gas is burned in stoves which are not connected with proper flues, there is no escape for the water vapor other than into the air of the rooms. When enough of this water vapor is added to that naturally present in the air to cause saturation, water will collect on the walls if they are cold enough.

Remedies which are used to prevent water from collecting on walls include providing adequate flues for all stoves; circulation of the air; insulation of the walls. No gas stove which is not connected with an outside flue, should be used in a living-room because of the possible danger to persons from both carbon dioxide and carbon monoxide in addition to the moisture annoyance. Sometimes fans are necessary, if partially opened windows are not sufficient, to bring in enough fresh air to keep the moisture content down through circulation. Air space in the walls and insulation are common means for maintaining the temperature high enough to prevent separation of moisture from the air in a room.

PURITY OF FLOWING WATER

We are located on the river about 14 miles below ——. This town runs its sewers into this river which is not very wide here, but runs fast, and I want to know if all the impurities could be removed by the water running 14 miles?—W. D.

The commonly accepted belief that running water is always pure is described as among the foremost of "hygienic fallacies" by the United States Public Health Service, in a statement recently made public, based on an intensive research in stream pollution.

Disastrous consequences have followed the too literal application of this erroneous principle to the selection of municipal water supplies" and has prompted numerous scientific investigations here and abroad.

On the basis of extensive series of observations presented in Part 2 of Public Health Bulletin No. 173, it has become possible to give numerical expression to the actual rate at which the oxygen demand of a water is satisfied. The outstanding feature of this section of the report is that the rate at which the organic water is oxidized, while strikingly uniform with a variety of waters, is exceedingly slow. Thus, in a given experiment with Ohio River water collected at Cincinnati, oxygen continued to be used up for fully 300 days and bacteria of intestinal varieties persisted for almost that length of time. Even in the absence of intervening pollution, it would be necessary to allow for a stream flow of several hundred miles before a water, once polluted, could regain its pristine purity. Irrespective of distance from the nearest upstream point of known pollution, it may be safely stated that no river in the United States can now be regarded as hygienically safe without treatment. Conversely, the possibility that a water polluted with sewage might be fully purified by flowng for "a dozen miles or so" becomes too remote for serious consideration.

BURNING AND TESTING FULLER'S EARTH

Please tell me the best way to determine a perfect burn of 30/60 fuller's earth. What temperature should clay be burned for use in percolating filters? What is the best kind of clay to use for filtering dewaxed long residuum?—C. B. W.

The value of a fuller's earth is indicated by the extent to which it will remove color and the burning must be done under the conditions which will best restore this property. A reference was given and a test described for the use of methylene blue as a means for determining the color value of fuller's earth, on this page of the November 10, 1927, issue of The Oil and Gas Journal.

The common method for determining the filtering value is to measure some of the clay, say 100 cc., into a small laboratory filter and run a standardized oil through this to a definite color or until the earth is exhausted as shown by no reduction in the color of the filtrate. This test may be made either on a basis of improved color, as expressed in numbers or letters, or on the quantity of oil of some definite color obtained per unit of earth.

The temperature which may be used for the burning depends on a number of different things. Some clays require higher temperatures than others. With some types of furnaces, especially those in which the clay comes in direct contact with the flame, it is not safe to make use of the higher temperatures commonly applied to the closed furnace. With the open furnace a direct flame of 700 degrees is considered to be the limit with the ordinary clay. This may be lowered depending upon the condition of the clay, the number of times it has been used etc The closed furnaces are not operated under varying temperature conditions; very good results being reported to be obtained at temperatures close to 1,000 degrees.

The kind of clay to use for filtering dewaxed oil will depend upon the filtering system and the color desired. Some refiners prefer the finer clay because the quantity necessary is less than when the coarser grades are used. The depth and width of the filter is another factor. Experiments on a small scale should enable you to select the earth which is most suited to your local conditions.

GRAVITY AS INDICATION OF OTHER PROPERTIES

Is gravity an important test for oil? Is it not true that there are light gravity oils produced in Texas and Oklahoma of relatively the same gravity as oils produced in the eastern section of the United States? Are there not oils found in certain parts of Texas and Oklahoma that yield as high gravity neutrals and stocks as some oils produced in the East?—B. V.S.

As an indication of quality gravity is of no value. Important use of gravity is made in the course of refining, that is plant control, and for the purpose of estimating weight; it is also used when making the numerous blends from the foundation stocks for the various commercial products.

There are wells in Oklahoma and Texas which have produced oil down to 10 gravity and a few which have shown as high as 70 gravity; that is practically gasoline. The present price table for Mid-Continent crude now recognizes a gravity classification from 24 to 52 A.P.I. The best-known crude oils of the East range from 28 to 52 gravity. It is plain then that identification of the origin of an oil with no other information than a statement of the gravity, would be unreliable.

When a study is made of the properties of the lubricating fractions, or some other fractions, obtained from the different crude oils, and an effort is made to compare gravity with some other property we find that if the second property, say viscosity, is fixed that the gravity will vary with the different kinds of petroleum. The crudes which contain paraffin hydrocarbons are classified as paraffin base oils; however, there are very few lubricating oils which are entirely paraffin hydrocarbons, and these are the low viscosity oils. Even in so-called paraffin lubricating oils the olefines and naphthenes, constitute the larger part. The true paraffin oils have a low specific gravity, that is a high A.P.I. gravity. The high specific gravity stocks are obtained from asphaltic base petroleums, such as found in Mexico, Texas, etc. Another class, including intermediate gravities, yields lubricating oils containing both paraffinic and asphaltic compounds.

There are produced in the Mid-Continent all of these different kinds and by the modern methods of manufacture it is possible to produce lubricating oils showing the properties of a paraffin base oil, for example, that has been made from an eastern oil.

FLASH POINT OF KEROSENE

Is a kerosene flashing at 130 Fahrenheit a better product than one flashing at 150 Fahrenheit?—M. C.

A very small quantity of the lighter fraction would be sufficient to lower the flash point of a 150 oil to 130 degrees. Without further information about these oils it may be stated that for ordinary burning use no difference in quality is indicated. The Government flash specification for kerosene is 115 Fahrenheit, and this is a minimum temperature.

The United States specifications for kerosene have been discussed by A. J. Kraemer, associate petroleum chemist of the Bureau of Mines, and he made the comments below concerning flash point.

The flash point requirement in the Federal Government kerosene specification is strictly a safety measure, and has no other function. The flash point should be placed high enough for safety, and not so high that it becomes difficult or practically impossible to comply with the flash point requirement, and still produce a satisfactory burning oil.

THE TRUTH IS AND THE FACTS ARE

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SMITHSTEEL
CRACKING STILLS

Economies From Refinery Salvage

Important Savings Possible Through Utilization of Old Equipment. Welding Important Factor in All Programs

By W. T. Ziegenhain

The plant operator is often faced with the problem of whether it is more economical to scrap certain equipment or salvage it to be repaired and used again. A general rule can not be applied for every case involves a new set of conditions. Many operators discount the idea that salvaged material ever pays to install while others probably go to the extreme in utilizing salvaged material with the result that neither gets a maximum savings. Undoubtedly there are numerous savings that can be made around the plant in salvaged materials if the proper equipment is available to recondition it and the work planned as fill-in jobs for the right kind of a mechanic.

The welder probably takes front rank among the various mechanics in such a program. Welded fences and railings made from salvaged pipe are common at refineries now and these are of minor importance to the many things that almost every plant has developed in the way of utilizing the scrap material and the welding torch.

Reclaiming Pump Rods

A good example of what might be done economically in a general practice of salvaging parts of worn equipment may be seen at the Bristow refinery of the Transcontinental Oil Co. Worn out pump rods are given a thin wash of brass by welding and then it is machined down in a lathe to the desired diameter.

The whole operaton takes but a short time where the equipment is available and makes a worth-while job for the welder as a fill in. This practice has solved the corrosion and rust problem on water pumps and has lengthened the life of the rod. The brass surface supplies a protective coating and the rigidity and strength of the original steel rod is still maintained.

The whole operation is so simple and has been standardized so that spare rods are kept on hand at all times. This item has cut down the cost of replacements. When measured in dollars over the year it may not appear high in relation to the total operating costs, yet is one of many such savings. It is a factor which may represent the difference between profitable and nonprofitable operations.

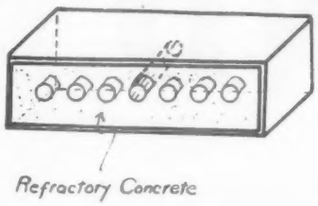
Similarly, valve seats are built up with brass and machined to effect a material savings.

A good example of the application of this practice is in salvaging large breather valves. W. M. Fraser, superintendent of the Transcontinental Oil Co.'s plant at Bristow, explained that corrosion often renders the valve useless by eating out the threads in the iron casting into which the valve seats are screwed. The brass seats do not corrode but as the threads around the seats are eaten out, the valve starts to leak and eventually the seat can be removed. It would be necessary to throw the entire casting away were it not possible to replace these threads. This could be done by reaming out a clean hole and putting in a brass bushing but it would be a matter of a relatively short time before the same trouble would be witnessed again. Instead, a brass ring is welded into the casting. The thickness to which this ring must be built up depends upon the amount of corrosion and the extent to which the old metal was removed to get a clean surface. The hole is reamed out and then tapped to the proper size to take the new valve seats.

In this way, a more permanent repair is made with relatively little expenditure in time and equipment and the savings may amount to a high figure where corrosive gasolines or crudes are stored. Similar uses of welding may be found around the plant. The superintendent can decide as to what jobs may be economically carried out.

Refractory Cement

Another common practice at the Transcontinental Oil Co.'s plant is the use of



a refractory cement made from old fire brick and ordinary Portland cement to increase the efficiency of the burners and eliminate leaks in the still settings.

In the regular practice of controlling the amount of air mixed with the gas or fuel oil to effect a maximum efficiency under stills and boilers iron pipe nipples are commonly cemented into the still setting. The fuel nozzle is so located inside these pipe nipples as to cause the air to be pulled through the nipple and mixed with the fuel. These nipples are subjected to high temperatures and corrosive acids and soon shorten or flatten. As the nipple shortens or changes shape the amount of air changes and the efficiency of the burner is lessened. While it may take several days or weeks to notice this it is slowly progressing and for that reason often goes unnoticed. Various means of controlling the amount of air have been successfully used but Mr. Fraser has devised a simple and very economic way of keeping it constant, and if the conditions for the fuel inlet remain constant the burner efficiency will remain constant.

Instead of pipe nipples cemented in the still setting a refractory concrete form is used, made up in the shape as shown in the diagram. The concrete is made entirely of crushed fire brick, ordinary cement and water. Old fire brick are crushed to make an aggregate similar to a mixture of sand and fine gravel. Three parts of the crushed fire brick and one part cement, mixed with plenty of water, serve best. This is poured into an iron form similar to that shown in the diagram. This is simply a welded sheet steel box about 1 foot deep, 8 inches high and 3 feet long. The box is open at both ends and in preparing to pour the concrete the box is set on one of the open ends. Pipe nipples are suspended through the center, extending through and a little above the box. The size of these nipples will vary with the number and size of the burners used but should be the same as found best in previous use. As the cement sets it holds the pipes fast. After the form hardens and is cemented into position in the still setting the pipe ends slowly corrode or burn out leaving a refractory concrete surface in

(Continued on Page 204)

CONSIDER BASIS FOR LONG TIME CONTRACTS ON NATURAL GASOLINE

Natural gasoline spot prices have not consistently followed refinery gasoline prices, retail gasoline prices nor crude oil prices in the past and apparently the only equitable basis of a contract price is the spot market. Reviewing the charts accompanying this article, the wide difference in the changes between the natural gasoline spot price in Oklahoma, the refinery gasoline price and the posted Mid-Continent crude price over 1927 can be seen. Reviewed for the last five years, natural gasoline prices may be seen to change its position with relation to refinery gasoline prices and a representative retail gasoline price yearly.

This is explained as being due to the fact that natural gasoline production and consumption are not a function of either crude oil production nor refinery operations. While it is closely allied to crude oil production from the standpoint of volume in some fields as a result of operating the gas lift, this is not applicable to all fields and a condition of surplus crude oil production and low crude prices might come at a time when there was a scarcity of natural gasoline. Some think that the industry is entering such a period at the present time, pointing out that as the West Texas fields are developed to equalize the decreasing Seminole crude production, there will not be a corresponding shift in the natural gasoline production.

Very little natural gasoline is expected to be produced in the West Texas fields and although the Seminole natural gasoline production will continue high, it too, will gradually decline. While an ample crude supply will tend to hold crude prices to their present level, there is no apparent way of materially increasing the natural gasoline production to take care of the falling off in the present fields and also take care of the increasing consumption. For this reason, the posted crude price does not appear to serve as a sound basis for natural gasoline contract prices in Oklahoma over 1928.

Comparison of Oklahoma Natural Gasoline Prices Over Last Five Years With U. S. Motor Gasoline Price and Chicago Tank Wagon Gasoline Price

	Okla. Natural Gasoline Price by Grades			Okla. U.S. 58-60-Gr. Motor Gasoline	Average Chicago Gasoline Tank Wagon Price in Dumps of 100 Gallons
	A	B	C		
Average 1923	.0913	.0875	.0823	.0978	.1705
Average 1924	.0866	.0818	.0767	.0896	.1768
Average 1925	.1202	.1158	.1120	.1055	.1627
Average 1926	.0945	.0887	.0860	.1031	.1703
Average 1927	.0585	.0544	.0525	.0667	.1471

Likewise, 58-60 U. S. Motor refinery gasoline does not appear as an equitable basis for natural gasolines as produced from the crude oil vary widely in volatility and the chief function of natural gasoline is to bring these up to a

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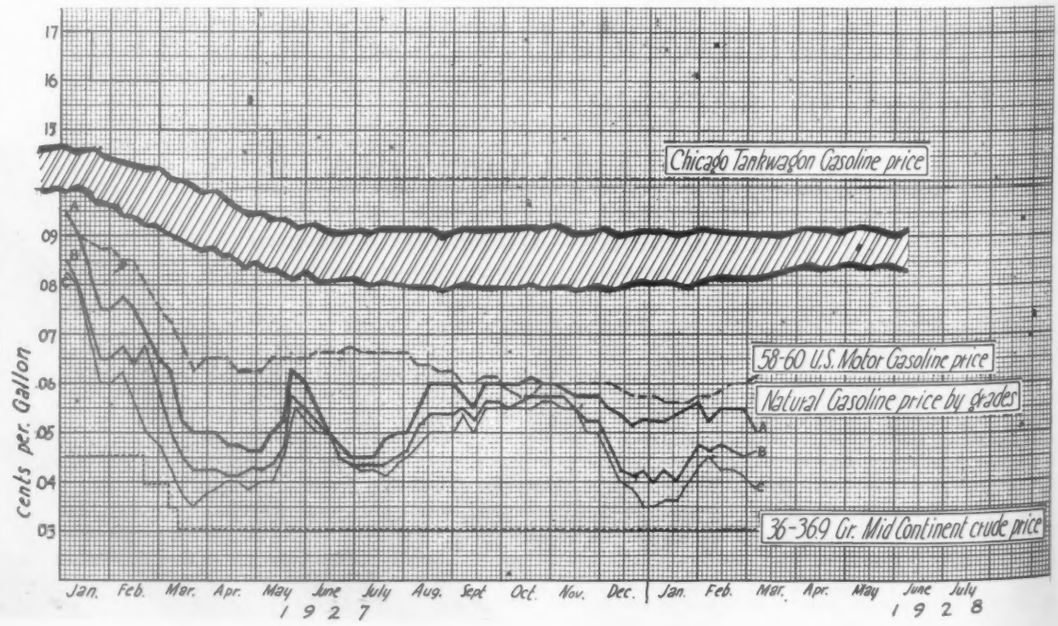

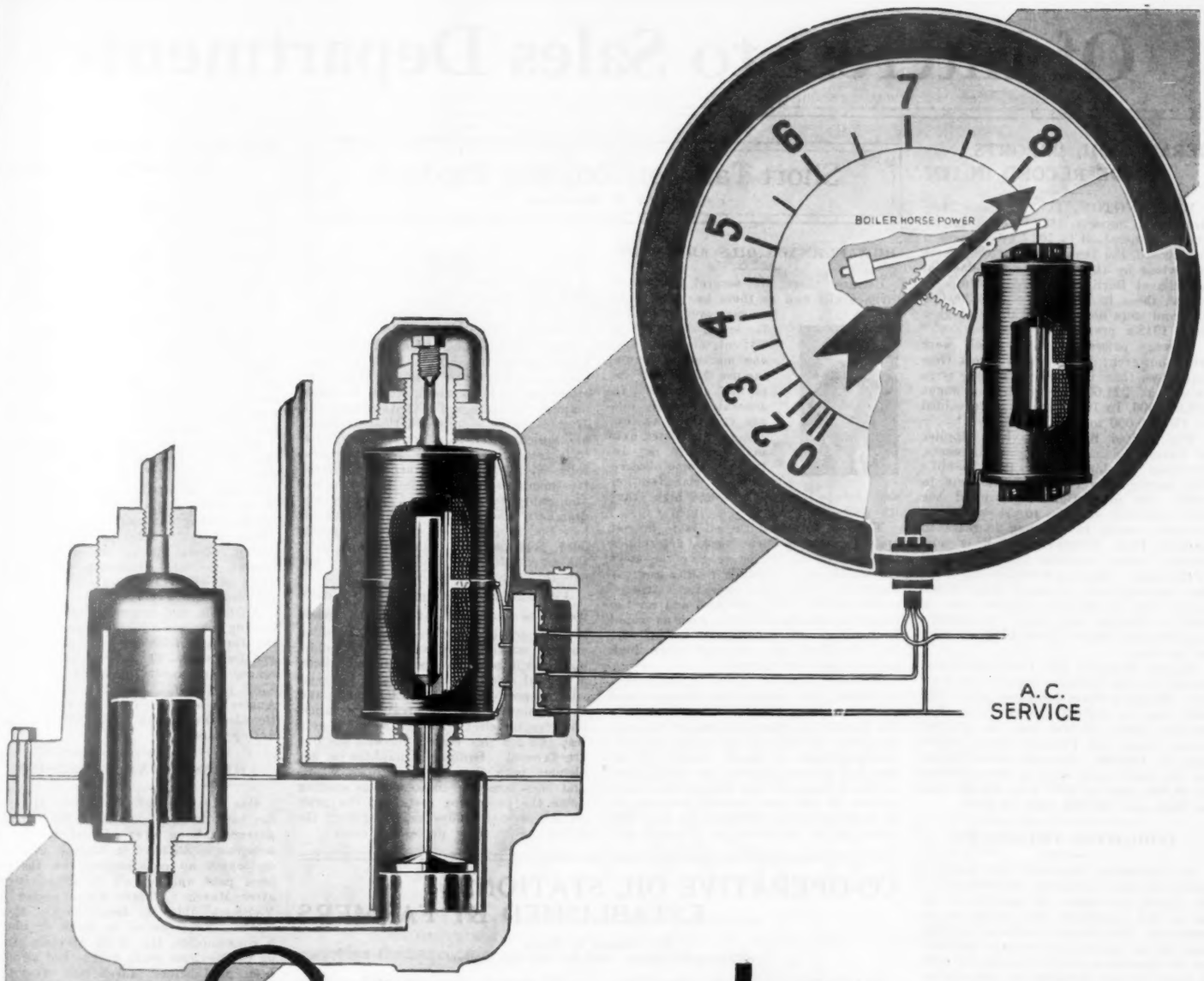

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Of Interest to Sales Departments

GERMAN OIL IMPORTS MADE RECORD IN 1927

WASHINGTON, D. C., Mar. 24.—Germany's imports of 1,680,000 metric tons of mineral oil in 1927 again made a new record, the Department of Commerce is advised by the American Commercial Attache at Berlin. Last year's imports topped those in 1926 by nearly 300,000 tons and were nearly 400,000 tons higher than 1913's prewar importation.

Average prices for mineral oil were lower however; 1927's imports cost Germany less than in 1926 when they were valued at 221,600,000 marks or about $50,000,000. In 1913 imports were valued at 176,500,000 marks.

The United States, heaviest supplier of Germany's mineral oil requirements, increased its shipments in 1927 to 861,700 metric tons from 755,100 tons in 1926. Its proportionate share of the total declined slightly to 51 per cent, however, owing to a heavy increase in imports from Venezuela which is now second largest exporter of mineral oil to Germany. Imports into Germany from that country have increased from 39,400 metric tons in 1925 to 295,000 tons in 1927, a 650 per cent gain. Venezuela's proportionate share is now 17½ per cent of the total.

Russia, Rumania and Persia have also gained in the German mineral oil market. Russia's share increased about 30,000 tons to 158,000 metric tons, Rumania's about 55,000 tons to 130,900 metric tons and Persia's about 52,500 tons to 100,000. Imports from Mexico on the other hand show a sharp decline to 16,800, tons in 1927 from 64,300 tons in 1926 and 125,700 tons in 1925.

INDICATING VISCOMETER

An indicating viscometer has been reported by the Automatic Appliance Co., St. Louis, by which the quality of the oil in the crankcase of a motor is determined. The device consists of a gauge head of the usual pressure type mounted on the dashboard which is connected with a small fitting installed in communication with the crankcase.

The gauge head has a scale to represent the quality of the oil at various stages and is calibrated to indicate viscosity in accordance with the Saybolt standard. The method of operation employs the hydrostatic principle, pressure being obtained from the lubricating system.

SHELL SALES AT PANAMA

The Shell Oil Co. will have gasoline on sale in Panama market by the middle of April. A 20,000-gallon storage tank is to be erected on the La Boca tank farm for this company. Later the company expects to extend its business to include kerosene and lubricants. Gasoline will be brought by the company's steamers from Venezuela after refining at Curacao.

BRITISH GASOLINE TAX TALK

Agitation is being renewed by automobile associations and other interests for the imposition of a gasoline tax in Great Britain in place of the present tax on motor cars according to horsepower. This tax totaled £21,393,000, or considerably more than $100,000,000, in 1926-27; at the estimated current rate of consumption of gasoline a tax of nearly 8 pence per gallon would be required to furnish a similar revenue. This would bring the price of gasoline from its present quotation of 1s 1½d for standard brands to 1s 9½d per gallon. Naturally the oil companies will oppose the tax, at least in such amount.

Short Talks on Refinery Products

By W. T. Ziegenhain

HOW FURNACE OILS ARE MADE

Because there are several classes of furnace oils and as there has been only a suggested standard for specifications it is difficult to outline any one method of manufacture that will apply in all cases. In general, furnace oils are cosndered as low flash distillates and may or may not be treated. Some observe a wider classification and include light gas oils and high gravity fuel oils.

The use to which the oil is to be put and the type of burner used, determines the kind of oil needed to give the most dependable and economic results and for household heating the low flash treated distillates seem to be favored and for the larger burner installations, such as would be found in office buildings, hotels, etc., the low flash gas oils and clean high gravity fuels are favored.

The use must be known in order that a refiner can supply the cheapest and yet satisfactory kind of furnace oil. In the household where the burner is automatically lighted, the fuel must be sufficiently volatile to readily ignite. To do this the refiner controls the flash point of the furnace oil by either allowing a portion of the more volatile fractions to be included in the distillate as it is distilled off of the crude or a small percentage of naphtha is blended with the distillate later. Ordinarily, some naphtha is needed to give the furnace oil the low flash demanded for most dependable service. Usually about 5 per cent naphtha is blended with the distillate.

This distillate may come from the crude direct during the initial distillation or it may come from the cracking stills. In either case it is pressed in about the same manner to make a finished furnace oil. If it is to be as near odorless as possible, which is the more common requisite, it is treated chemically. Sulphuric acid followed by a caustic wash or a doctor treatment renders the distillate odorless and improves the color. Color does not designate quality and so long as the oil has the proper flash point, fire point, odor, cold test and is bright and clean the essentials of a good furnace oil are satisfied.

A distillate thus processed usually meets the most exacting needs but when the furnace is hand fired or allowed to operate continuously such as in public buildings it is not necessary to make such a careful selection of the basic material with respect to its distillation range and flash point. It is of great importance, however, to select a cut having a low cold test and for this reason cracked gas oils are favored. Ordinarily naphtha is not blended with these heavier furnace oils and they are not treated, thus cutting down the processing costs and the price on the several grades usually reflect the difference in these processing costs.

CO-OPERATIVE OIL STATIONS ESTABLISHED BY FARMERS

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Mar. 24.—During the past two years there have been established 19 co-operative oil stations by the farmers of the State of Illinois. In most cases these stations make direct delivery to the farm by truck and as a rule do not have service pump stations.

This movement for farmers co-operative gasoline and oil stations has taken place mainly in Illinois, Nebraska and Minnesota. The bureau of labor statistics of the Department of Labor has made a special study of these co-operative stations.

Two kinds of stock are issued by this association, common stock of no par value, issued to farm bureau members only, ownership of which carries with it the right to vote in the organization and to participate in the distribution of patronage dividends, and preferred stock, ranging in the various organizations from $25 to $100, carrying the right to vote and to a dividend of from 6 to 8 per cent, but no right of participation in patronage dividends.

Purchase Plan

Fourteen of these local associations have their own central purchasing organization, the Illinois Farm Supply Co., which began business April 1, 1927. It also issues common and preferred stock, like the local organizations, but adds a third class, preferred stock of $1 par value, the whole issue of 2,500 shares being held by the Illinois Agricultural Association.

The central company is managed by a board of nine directors elected by delegates from the county organizations. Its sales up to December 1, 1927, consisted of 261 carloads of gasoline, 138 carloads of kerosene, 37½ carloads of lubricating oils, 48,236 pounds of grease, and 2,471 gallons of denatured alcohol.

Nebraska Situation

Data regarding the co-operative oil station in Nebraska were presented to the fifteenth convention of the Nebraska Farmers' Union, a summary of which is given in the January 25, 1928, issue of the Nebraska Union Farmer.

In that State the growth of this new phase of co-operation is being fostered by the Farmers' Union. A State-wide central purchasing organization has been formed, the actual buying agent being the Farmers' Union State Exchange at Omaha. Fourteen local organizations are now making all their purchases through the State association. Some of these are not members of the association, however, because they do not meet the requirement that 60 per cent of their shareholders be members of the Farmers' Union.

Since the State association was organized in May, 1927, 18 local organizations have purchased through it 114 carloads of gasoline and 40 carloads of kerosene.

Minnesota Stations

The co-operative oil companies in Minnesota have their central organization, the Minnesota Co-op Oil Co., which began business in March, 1927. The Northern States' Co-operator, in its issue of January, 1928, states that the net sales of the central company during the 8-month period ending December 1, 1927, amounted to $257,654 and its net trading surplus to $3,474. Approximately 500 carloads

(Continued on Page 200)

RECORD IN EXPORTS OF GASOLINE PUMPS

Exports of gasoline pumps and automobiles during January exceeded all previous records, according to figures issued by the United States Bureau of Foreign and Domestic Commerce and the predictions previously made that the foreign market for petroleum products during 1928 would be greatly increased, is supported by these facts.

During the month 5,156 gasoline and oil filling station appliances were exported and the value of automobiles exported aggregated $32,376,127. This represents an increase of 6.7 per cent of exports over January, 1927, and 20.5 per cent over January, 1926.

Revised figures of the department show that during January passenger car production totaled 199,032, of which 20,246 cars were exported, being 10.3 per cent of the total manufactured. Production of trucks during January totaled 26,007, of which 11,584 or 44.5 per cent were exported. Consolidating the car and truck figures, the total production was 225,039 units of which 14.3 per cent or 32,060 vehicles were exported.

Australia and Argentina were the two leading markets for passenger cars during January, followed by Canada, Brasil and Denmark. The average value of passenger car exports during January was $765 per unit. Argentina followed by Australia occupied first and second positions as the leading foreign truck market during January.

CHINESE TAX ON KEROSENE

One Mexican dollar or about 47 cents has been ordered collected by the Nanking government on every 10-gallon case of kerosene oil in stock in Kiangsu Province on which no consumption tax has yet been paid and on all kerosene arrived after March 1, Trade Commissioner A. V. Smith cables the Department of Commerce. Kerosene oil in stock on which a consumption tax of 20 Mexican cents or 60 Mexican cents a case had already been paid before March was taxed the difference, to be paid before March 15. It is understood that the consumption tax is applicable in other territory under the nominal control of the Nanking Government besides Kiangsu. This tax was not anticipated by the oil companies. As is usual in China the levying of the tax was announced to take effect promptly without any advance notice that there would be any change in the rate.

REFUNDS IN MONTANA

Refunds of taxes on gasoline purchased and used for tractors which were not used on the Montana highways, amounted to $195,116.90 since last year. These payments are being made to farmers and ranchers who bought gasoline to run farm machinery and the tax bill was intended to tax road travel in automobiles only.

PURE OIL CONTRACT

The Pure Oil Co. has closed a contract with the Garage Owners Oil Co. providing for the distributing of its products by the latter organization. The company operates about 85 stations.

QUEBEC GASOLINE TAX

Quebec, Canada, has made known its intention of increasing the gasoline tax in the province from 3 cents to 5 cents a gallon, the additional revenue to be spent on road work, especially to rehabilitate the highways damaged by the floods last year.

A WORLD FACTOR IN AVIATION GASOLINE

The progress of aeronautics is attracting the startled attention of the entire world. No other subject is of such universal interest as the exploits of famous flyers. The number of airplane factories that are on a volume basis is rapidly increasing.

Fuel is a basic problem of this infant industry. The Phillips Petroleum Company was among the pioneers in taking up the problem of aviation fuel. Our laboratories have been working consistently on this problem for several years. The result is that today PHILLIPS is producing an aviation fuel which is proving ideal for the modern airplane. It was this product—PHILLIPS Aviation Gasoline—which fueled the victorious Woolaroc in its flight to Honolulu. PHILLIPS Aviation Gasoline is also being used by the Boeing Air Transport Company to carry passengers and U. S. Air Mail from Chicago over the Rocky Mountains to Salt Lake City.

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We are also manufacturing, at this time, PHILLIPS "66" Gasoline, a refinery gasoline of high volatility and exceptional merit. Phillips Petroleum Co., Bartlesville, Okla.

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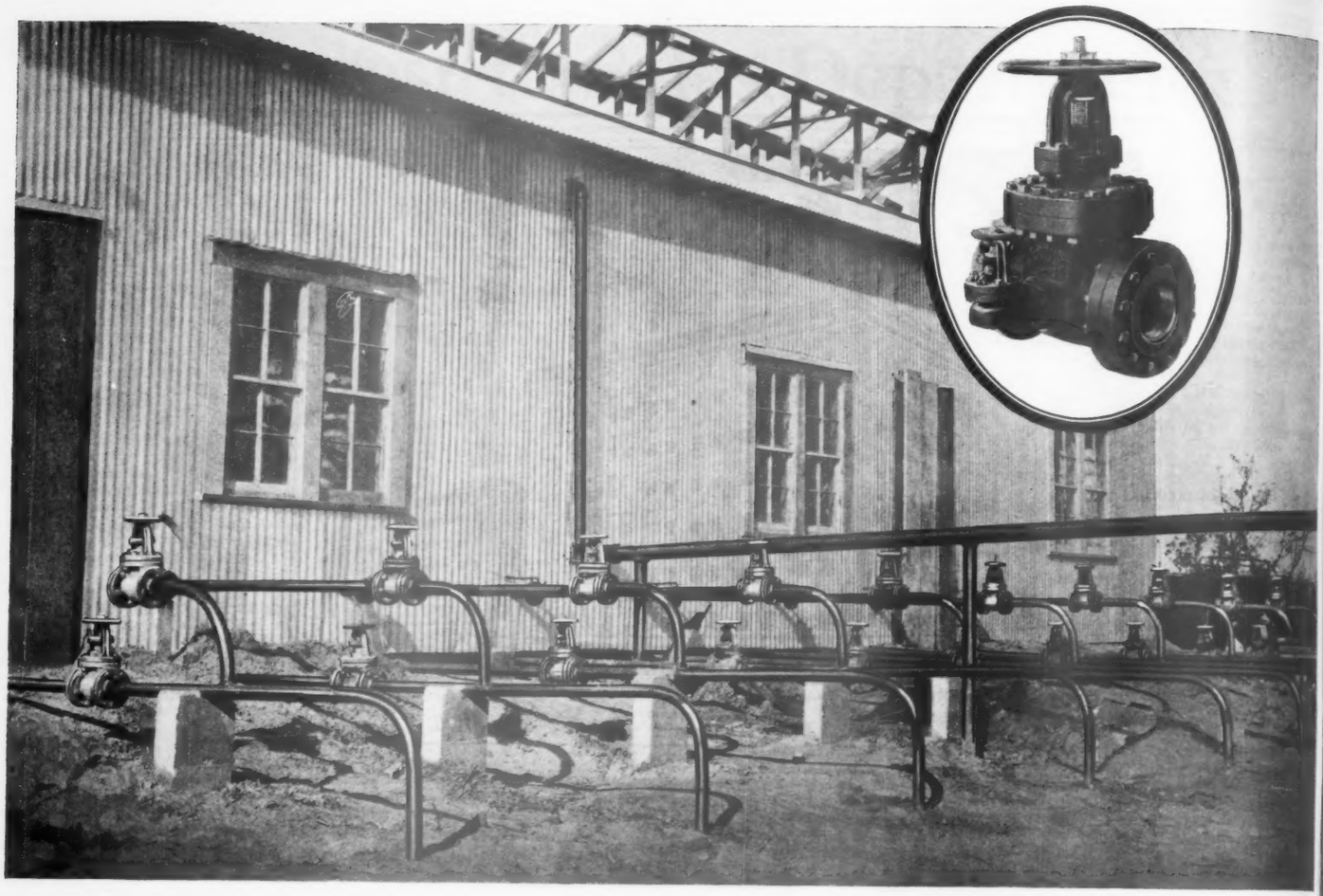

A Talk on Valve Values

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DARLING

GATE VALVES

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Gray County

Dillard and others' No. 1 Freneaux, 330 feet south and west of the NE cor. of the SE of Section 202, Block B-2, H&G.N. Survey. Empire Gas & Fuel Co.'s No. 1 T. Cobb-B, 1,320 feet south and east of the NW cor. of Section 178, Block 3, I.&G.N. Survey. Lefors Petroleum Co.'s No. 2 J. M. Shaw, 330 feet south and east of the NW cor. of the T. Leach Survey. McIlroy Oil Co.'s No. 1 M. B. Davis, 330 feet south and west of the NE cor. of the south 240 acres of the E half of Section 12, Block 1, A.C.H.&B. Survey. Osborn and others' No. 1 J. S. Morse, 330 feet north and east of the SW cor. of the SE of Section 1, Block 26, H.&G.N. Survey. J. T. Parks' No. 1 N. H. Reed, 330 feet south and west of the NE cor. of the west 236 acres of the N half of Section 1, Block B-2, H.&G.N. Survey. Plains Drilling Co. & Ray's No. 1 A. Chapman, 330 feet north and 990 feet east of the SW cor. of the NW of Section 50, Block A-9, H.&G.N. Survey. Same company's No. 2 A. Chapman, 330 feet south and west of the NE cor. of the E half of the NE of Section 20, Block 1, A.C.H.&B. Survey. Scott & Travis' No. 1 A. Chapman, 990 feet north and west of the SE cor. of the N half of the SW of Section 70, Block 25, H.& G.N. Survey.

Hutchinson County

Barnum & Delmar's No. 1 Johnson Brothers, 330 feet south and east of the NW cor. of the E half of the NW of Section 37, Block Y. Timms & Dietsch's No. 1 C. R. Garner, 330 feet south and west of the NE cor. of the west 80 acres of the SE of Section 124, Block 4, I.& G.N. Survey.

Moore County

Amarillo Oil Co.'s No. 1 L. H. Crawford, C of SE of Section 26, Block P,M.C., E.L.&R.R. Survey. Same company's No. 1 D. P. Seay, C of Section 85, Block 2, G.&M. Survey. Same company's No. 1 J. T. Sneed, Jr., C of the west 640 acres of the Horace Hall Survey.

Wheeler County

Lone Star Gas Co.'s No. 1 C. C. George, C of SE of SE of Section 88, Block 17, H.&G.N. Survey.

NORTH CENTRAL AND WEST TEXAS

Archer County

Burns & Humble Oil & Refining Co.'s No. 3 L. F. Wilson, 150 feet south and west of the NE cor. of Lot No. 217, Geraldine Subdivision. R. P. Dorian's No. 1 B. W. Finnell, 2,050 feet north and 350 feet east of SW cor. of Section 17, Denton County School Land, League 3, A-117, being 125 feet north and 115 feet west of SE cor. of Block 57, Town of Holliday. J. R. Elliott and others' No. 1 W. E. Wolf, 150 feet south and 923 feet west of NE cor. of V. H. Finch Survey, A-1,095. Empire Gas & Fuel Co.'s No. 1 J. R. Parkey-A, 150 feet south and 510 feet east of NW cor. of the W half of NE of Section 11, Block 3, H.&T.C. Survey, A-205. Frain-McGaha Oil Corp. and Humble Oil & Refining Co.'s No. 2 L. F. Wilson-C, 374 feet south and 150 feet west of NE cor. of the south 33 acres of Lot No. 27, Wilson's Geraldine Subdivision. Same company's No. 3 L. F. Wilson-C, 150 feet south and east of NW cor. of the south 33 acres of Lot No. 27, Wilson's Geraldine Subdivision. Fain-McGaha Oil Corp. and United Producers Co.'s No. 3 L. F. Wilson-B, 450 feet north and 150 feet east of SW cor. of Lot No. 20, Wilson's Geraldine Subdivision. Same company's No. 4 L. F. Wilson-B 450 feet north and 150 feet west of SE cor. of Lot No. 20, Wilson's Geraldine Subdivision. F. H. Gohlke and others' No. 1 Mrs. R. Fallon heirs, 150 feet north and east of SW cor. of Lot No. 251, Geraldine Subdivision. Same company's No. 2 W. F. Parrish, 150 feet north and east of SW cor. of Lot No. 232, Geralding Subdivision. L. P. Hammond's No. 1 L. F. Wilson, 150 feet north and east of SW cor. of Section 108, A.T.N.C.L. D. O. Johnson and others' No. 3 L. F. Wilson-A, 150 feet south and 450 feet west of NE cor. of Lot No. 26, Wilson's Geralding Subdivision. J. P. Rayzor's No. 1 J. H. Turbeville, 150 feet north and west of SE cor. of east 10 acres of NE of Section 153, Robert Carson Survey. Wilson and Humble Oil & Refining Co.'s No. 1 L. F. Wilson, 1,651 feet south and 1,359 feet east of NW cor. of Lot No. 1, Section 107, A.T.N.C.L. Bridwell Oil Co.'s No. 1 R. Holasek, 150 feet north and 810 feet west of SE cor. of Section 4, G. P. Meade Subdivision, L. M. Pasture. Panhandle Refining Co. and McGregor's No. 5 W. R. Farmer, 2,598 feet south and 2,168 feet east of NW cor. of J. Poitevent Survey No. 1, A-347. Panhandle Refining Co. and Grisham's No. 4 W. R. Farmer-A, 1,732 feet north and 3,658 feet east of SW cor. of J. Poitevent Survey No. 1, A-347.

Brown County

Amerada Petroleum Corp.'s No. 1 Graham Estate, 1,920 feet north and 2,640 feet east of SW cor. of Lot No. 4, Geremiah Brown Survey No. 137. Breeding and others' No. 2 Roy Hickman, 2,800 feet south and 3,075 feet west of NE cor. of Thomas Benson Survey No. 783, being 450 feet south and 75 feet west of NE cor. of their 9-acre lease. Clark-Buffalo Oil Co.'s No. 5 Brown County, 2,800 feet south and 2,150 feet east of NW cor. of James Kinney Survey No. 624. Same company's No. 6 Brown County, 3,050 feet south and 1,725 feet east of NW cor. of James Kinney Survey No. 624. E. Evans and others' No. 1 A. T. Tate, 1,000 feet north and 200 feet west of SE cor. of S. Lackermann Survey No. 796. Forrest Oil Co.'s No. 4 A. A. Moore, 500 feet south and 750 feet east of NW cor. of its lease out of J. A. Belvin Survey, A-1,961. Jay Hawk Oil Co.'s No. 3 B. S. Boysen, 150 feet north and 1,413 feet east of SW cor. of north 40 acres of H. Pressler Survey, A-2,041. Same company's No. 4 B. S. Boysen, 150 feet north and west of SE cor. of the north 40 acres of H. Pressler Survey, A-2,041. Pandem Oil Corp.'s No. 6 A. D. Hutton, 1,399 feet south and 150 feet west of NE cor. of J. A. Nobles Survey, A-1,947. Same corporation's No. 7 A. D. Hutton, 467 feet south and 150 feet west of NE cor. of J. A. Nobles Survey, A-1,947. Peckham and others' No. 3 P. U. Bush, 1,950 feet south and 1,250 feet east of NW cor. of James Kinney Survey No. 624, being 450 feet south of north line and 450 feet west of east line of their 20-acre lease. Phillips Petroleum Co.'s No. 10 Roy Hickman, 450 feet south and 75 feet west of NE cor. of its lease out of Thomas Benson Survey No. 783. Phillips & Thomas' No. 1 R. C. Brown, 375 feet south and 2,075 feet east of NW cor. of R. C. Brown 77-acre tract out of Section 3, H.T.&B. Survey. Prairie Oil & Gas Co.'s No. 1 N. G. Woods, 150 feet north and 450 feet west of SE cor. of north 40 acres of south 80 acres of J. C. Bailey Survey No. 137. Roeser & Pendleton's No. 1 W. E. Hill, 1,329 feet north and 1,050 feet east of SW cor. of Myram Mudgett Survey No. 63. E. L. Smith Oil Co.'s No. 1 H. M. Trueheart, 150 feet north and east of SW cor. of M. B. Lamar Survey No. 638, A-603. Superior Oil Co.'s No. 1 J. M. Perry, 3,750 feet south and 2,800 feet east of NW cor. of James Kinney Survey No. 624, being 150 feet south and west of NE cor. of its 20-acre lease. Wentz and Semi-Lock Petroleum Co.'s No. 1 A. E. Keeler, 424 feet south and 520 feet east of NW cor. of north 205 acres of south 255 acres of A. E. Keeler tract out of James Kinney Survey No. 624. A. M. Wilburn's No. 1 Tyler & Thomas, 700 feet north and west of SE cor. of Tyler & Thomas 107-acre tract out of Section 63, H.T.&B. Survey. L. E. Brock and others' No. 1 Brownwood Fair Association, 800 feet southeast of northwest line and 150 feet southwest of northeast line of Marcus Huling Survey No. 51. Ditto Oil Interests' No. 3 J. L. Richardson, 150 feet north and east

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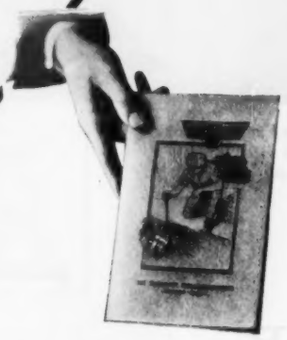

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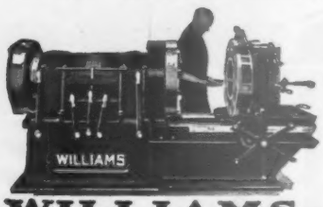

WILLIAMS RAPIDUCTION POWER PIPE MACHINE

of SW cor. of northeast 40 acres of S.A.&M.G. Survey, A-1,233. Doctor Lloyd and others' No. 2 J. C. Collier, 210 feet east of the Forth Worth & Rio Grande Railway and 535 feet south of the north line of J. C. Collier 320-acre tract out of William A. Smith Survey No. 139, A-839. G. P. Mitcham's No. 1 R. J. Hanford, 150 feet north and east of SW cor. of R. J. Hanford 40-acre tract out of G. S. Sparks Survey No. 126.

Callahan County

W. J. Armstrong's No. 1 A. Hickman, 968 feet north and 695 feet east of the most westerly SW cor. of the I.&G.N. Survey No. 2. Humble Oil & Refining Co.'s No. 1 Head Brothers, 990 feet south and 2,372 feet west of NE cor. of Section 40, B.B.B.&C. Survey. Syndicate Oil Co. and A. L. Beason's No. 1 J. R. Jackson, 660 feet south and east of NW cor. of SE of W. C. Powell Survey No. 4.

Coleman County

B. D. Dozier and others' No. 1 J. W. Harris, C of north 40 acres of west 80 acres of east 160 acres of J. W. Harris 320-acre tract out of O. H. Peters Survey No. 175. Oswego Petroleum Co.'s No. 1 H. E. Miller, 150 feet south and 600 feet west of NE cor. of SE of Section 23, H.T.&B. Survey. Selby Oil & Gas Co.'s No. 1 William Terrell, 150 feet north and 600 feet west of most southerly SE cor. of J. A. Wright Survey No. 747. Manhattan Oil Co. and Owens' No. 1 W. L. Richardson, C of Lot No. 49, William Doran Survey No. 666. P. K. French's No. 1 A. L. Rowe, 660 feet north and west of the SE cor. of Lot No. 77, J. H. Goodwin Survey No. 667.

Comanche County

J. L. Scoggins and others' No. 1 S. B. Poteet, 300 feet north and 900 feet west of SE cor. of NW of Section 45, Deaf & Dumb Asylum Land.

Eastland County

Adamson & Bearman's No. 4 N. N. Rosenquest, 525 feet south and 900 feet east of NW cor. of west 40 acres of north 80 acres of N. N. Rosenquest 553.6-acre tract out of Section 3, Block 6, E.T.R.R. Charter Oil Co.'s No. 1 N. E. Turner, 550 feet south and 250 feet east of NW cor. of N. E. Turner 50-acre tract out of B.B.B.&C. Survey. W. Harbin an dothers' No. 1 C. T. Webb, 450 feet south and 150 feet east of NW cor. of south 80 acres of NE of Section 26, Block 2, H.&T.C. Operators Oil & Gas Co.'s No. 1 F. C. Williamson, 2,000 feet south and 550 feet west of the NE cor. of T. P. Coal & Oil Co.'s 132-acre tract out of W. Van Norman Survey and located on F. C. Williamson 160-acre tract. Ed Parsons and others' No. 2 T. L. Scott, 1,200 feet north and 500 feet west of SE cor. of Lot No. 8 of west third of T. A. Howell Survey. The Texas Company's No. 1 J. M. Turner, 990 feet north and east of SW cor. of Section 26, Block 2, H.&T.C. Cranfill & Reynolds' No. 1 A. F. Tate, 1,115 feet south and 150 feet west of NE cor. of S. Lackermann Survey No. 797. Cranfill & Reynolds' No. 2 W. F. Turner, 150 feet north and 734 feet west of SE cor. of SE of NW of Section 30, Block 2, H. & T. C. A. R. Forster and others' No. 1 J. E. Spencer, 150 feet north and east of the south 40 acres of west 80 acres of NE of Section 29, Block 2, H. & T. C.

J. B. Gordon's No. 1 E. D. O'Rear, 150 feet south and 1,917 feet east of NW cor. of Section 6, B'ock 2, E.T.R.R. Survey. Hickok Prod. & Dev. Co.'s No. 1 W. A. Ricks, 500 feet south and east of NW cor. of SW of NE of Section 46, Block 4, H.&T.C. Natures Treasure Oil Co.'s No. 1 R. H. Qualls, 1,375 feet south and 230 feet west of NE cor. of Section 3,188, T.E.&L. Southwestern Petroleum Corp.'s No. 1 W. P. Reagan, 180 feet south and 300 feet west of NE cor. of W. P. Reagan 120-acre tract out of Section 38, Block 4, H.&T.C.

Jack County

Seaboard Oil & Gas Co.'s No. 4 J. W. Cullers and others, 150 feet south and 793 feet west of NE cor. of its 60-acre lease out of Section 4, S.P.R.R. Survey, A-2,188.

Menard County

Moody Oil Corp.'s No. 1 G. S. Allison, 330 feet north and west of SE cor. of Johann Kuhler Survey No. 1,473.

Montague County

R. I. Carter's No. 1 W. W. Jones, 150 feet north and west of SE cor. of Lot No. 9, J. W. Jones Subdivision, William Donoho Survey, A-178. Continental Oil Co.'s No. 2 Mrs. M. H. Salmon-B, 150 feet south and 200 feet east of NW cor. of M. H. Salmon 421-acre tract out of F. Robertson Survey, A-620, being 150 feet south and 200 feet east of most westerly NW cor. of its "B" lease. Oil Operators Trust Co.'s No. 6 E. J. Bouldin, 1,026 feet north and 1,499 feet east of SW cor. of C. Chacon Survey, A-140. Petroleum Producers Co.'s No. 3 C. H. Howard, 459 feet north and 150 feet east of SW cor. of C. H. Howard's 220-acre tract out of F. Robertson Survey, A-620. Seigler and others' No. 5 J. W. Maddox, 150 feet north and 750 east of SW cor. of N half of Lot No. 14, S. H. Arnold Survey, A-5.

Palo Pinto County

Britton & Gordon's No. 2 Strawn Coal Co., 1,850 feet south and 2,777 feet east of NW cor. of Isaac Ryan Survey, A-318.

Pecos County

The California Co.'s No. 1 Mrs. M. A. Smith, Lease 2, 1,650 feet north and east of SW cor. of Section 26, Block 194, G.C.&S.F. Survey.

Shackelford County

M. H. Brann's No. 1 J. B. Matthews, 150 feet south and west of NE cor. of east 40 acres of southwest 80 acres (square) of Section 2, Block 10, E.T.R.R. George Callahan's No. 2 J. H. Nail, 150 feet south and west of NE cor. of Section 150, Block 10, E.T.R.R Survey. J. P. Harris' No. 2 J. B. Matthews, 150 feet south and west of NE cor. of SW of NE of Section 57, Block 10, E.T.R.R. Survey. L. B. Hogan and others' No. 1 G. Flippen, 150 feet north and west of SE cor. of Section 69, Block 11, T.&P.R.R. Survey. Roeser & Pendleton's No. 1 W. I. Cook-A, Section 53, 150 feet north and 1,398 feet east of SW cor. of Section 53, Block 10, E.T.R.R. Survey. Same company's No. 6 W. I. Cook-B, Section 61, 150 feet south and west of NE cor. of SW of SW of Section 61, Block 10, E.T.R.R. Survey. Same company's No. 31 W. I. Cook-B, Section 60, 67 feet north and 383 feet east of SW cor. of NW of NW of Section 60, Block 10, E. T.R.R. Survey. Skelly Oil Co.'s No. 3 J. B. Matthews, 150 feet north and west of SE cor. of west half of SE of Section 34, Block 10, E. T.R.R. Survey. Tannehill Oil Co.'s No. 2 J. B. Matthews, Section 34, 150 feet north and east of SW cor. of east half of SE of Section 34, Block 10, E.T R.R. Survey.

Stephens County

Pace & Ward and others' No. 3 B. Y. Stokes, 1,740 feet north and 330 feet east of SW cor. of Section 1,216, T.E. &L. Survey. Charter Oil Co.'s No. 1 S. G. Tomlinson, 600 feet south and east of NW cor. of NW of S. G. Tomlinson 160-acre tract out of Section 446, S.P.R.R. Survey. Phillips Petroleum Co.'s No. 1 J. L. Burke, 660 feet south and 330 feet east of NW cor. of south half of NE of Section 39, Block 6, T.P.R.R. Survey. Texas Pacific Coal & Oil Co.'s No. 73 Charles Binney, 1,700 feet north and 900 feet east of SW cor. of Section 76, Block 4, T.&P.R R. Survey. Texas-Louisiana Power Co.'s No. 3 J. B. Morton, 400 feet north and east of SW cor. of north 200 acres of east half of Section 123, H.T. &B. Survey.

Upton County

Atlantic Oil Producing Co. and others' No. 1 W. B. and F. F. Elkin, 330 feet north and 2,310 feet west of SE cor. of Section 34, Block 38, T-5-S, T.&P.R.R. Survey.

Wichita County

Harry Hines' No. 1 Wichita River Bed, 140 feet north of northeast corner of J. R. Pace 347-acre tract out of R. J. Scott Survey, A-255, and located in the bed of the Wichita River. W. B. Omohundro's No. 1 W. H. Chilson, 840 feet north and 730 feet west of SE cor. of Section 7, Denton County School Land, League 4, A-417. Shappell Oil Co.'s No. 15 Kemp & Kemper-A, 531 feet south

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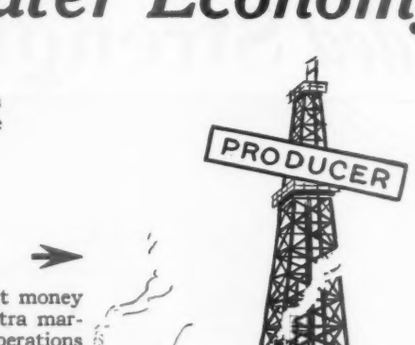

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and 450 feet west of NE cor. of Block 19, Kemp Wichita Valley Land.

Wilbarger County

Fain-McGaha Oil Corp.'s No. 4 W. T. Waggoner-M, 505 feet north and 150 feet west of SE cor. of SW of SW of Section 24, Block 4, H.&T.C. Survey. Fain-McGaha Oil Corp.'s No. 4 W. T. Waggoner-O, 150 feet north and 695 feet east of SW cor. of SE of NW of Section 50, Block 4, H.&T.C. Survey. Prairie Oil & Gas Co.'s No. 8 W. T. Waggoner-A, 300 feet north and 1,104 feet west of SE cor. of north half of SE of Section 45, Block 4, H.&T.C. Survey. Roxana Petroleum Corp.'s No. 2 T. J. Milner, 150 feet north and 450 feet east of SW cor. of east 60 acres of south 80 acres of east half of Section 30, Block 9, H.&T.C. Survey. Waggoner Refining Co.'s No. 3 W. T. Waggoner-F, 200 feet north and 660 feet west of SE cor. of Section 25, Block 4, H.&T.C. Survey.

Winkler County

Atlantic Oil Producing Co.'s No. 6 Ida Hendricks-D, 2,310 feet south and 990 feet east of NW cor. of Section 29, Block B-5, School Land. Same company's No. 7 Ida Hendricks-D, 1,650 feet south and 330 feet east of NW cor. of Section 29, Block B-5 School Land. Landreth Production Corp. and Roxana Petroleum Corp.'s No. 6 Ida Hendricks-A, 2,310 feet north and 990 feet east of SW cor. of Section 29, Block B-5, School Land. Roxana Petroleum Corp.'s No. 4 Ida Hendricks-B, 990 feet north and 1,650 feet west of SE cor. of Section 29, Block B-5, School Land. Same corporation's No. 8 Ida Hendricks-C, 990 feet south and 330 feet east of NW cor. of Section 29, Block B-5, School Land.

Young County

J. C. Cunningham's No. 2 Hawkins, 150 feet south and 450 feet west of NE cor. of Section 1,914, T.E.&L. Survey. Panhandle Refining Co. and others' No. 2 P. K. Pittman, 150 feet north and east of SW cor. of J. L. Elmore Survey, A-1,421. Pennell Oil Co.'s No. 2 J. L. Boone, 150 feet south and 450 feet east of NW cor. of NW of NW of Section 1, B.B.B.&C. Survey, A-34. Shappell Oil Co.'s No. 2 C. W. Johnson, 450 feet north and 150 feet east of SW cor. of Ed W. Sergeant Survey, A-253. Hynes Oil Co.'s No. 1 J. H. Carter, 200 feet north and east of the most southerly SW cor. of D. C. Brooks Survey, A-1,866.

Corrected Locations

In Brown County: Clark-Buffalo Co.'s No. 3 Brown County, 2,450 feet south and 2,050 feet east of NW cor. of James Kinney Survey No. 624. Same company's No. 4 Brown County, 2,250 feet south and 1,900 feet east of NW cor. of James Kinney Survey No. 624. G. P. Mitcham's No. 2 A. E. Keeler, 150 feet south and 460 feet east of NW cor. of east 50 acres of north 100 acres of A. E. Keeler 391-acre tract out of James Kinney Survey No. 624.

In Callahan County: Max Westheimer and others' No. 1 C. B. Snyder, 1,518 feet north and 370 feet west of SE cor. of Section 143, B.B.B.&C. Survey.

In Shackelford County: McLester Oil Co. and others' No. 1 R. J. Moberley, 200 feet north and east of SW cor. of NE NE of Section 1, Block 12, T.&P.R.R. Survey.

MAY BUILD REFINERIES

The French oil importation bill, as finally passed by Parliament, contains none of the discriminatory features which French oil interests tried to introduce into the original measure. The present bill promises to give foreign importers opportunity to develop business in France as consumption increases.

Standard Oil, Royal Dutch-Shell and Anglo-Persian, the Wall Street Journal understands, intend to build refineries along the French Seaboard in order to benefit by the reduced duties on crude oil imported. It is doubtful whether purely French interests succeed in putting in refineries, due to large capital necessary. It is reported that Compagnie des Petroles, which holds the French share of Turkish Petroleum, proposes to build a refinery at Marseilles.

GERMAN OIL PRODUCTION SLOWLY RECOVERING

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Mar. 24.—Germany is making progress in the production of petroleum according to a report just received from the commercial attache at Berlin.

"The hydrogenation of coal, or the production of oil from coal, invented by Dr. Friedrich Bergius, Heidleberg, Germany," this report states, "improved later considerably by I. G. Farbenindustrie Aktiengesellschaft and put into commercial operation at this company's plant at Leuna, with a monthly production of 2,000 tons of benzine, in January, 1928, has been so much discussed in the local as well as in the professional press that the fact has been entirely overlooked that Germany's petroleum production is slowly recovering from the losses suffered through the cession of Alsace-Lorraine in 1918 to France. Alsace produced prior to the war nearly one-half of Germany's total petroleum production.

"This country's petroleum production amounted in 1913 to 120,983 tons, of which 71,399 tons were produced in the province of Hanover and 49,584 tons in Alsace.

"The production dropped to a total of 37,444 tons only in 1919 and increased slowly but steadily from year to year, reaching a total of 95,392 tons in 1926, entirely produced in Hanover. The 1927 production figures are not yet available. It might, however, be expected that the 100,000-ton mark will be considerably surpassed.

"During the past year extensive drilling was going on in the north German oil district—province of Hanover. Some of the drillings have met with considerable success recently. North German Mineral Oil struck a well on January 11, 1928, in Oberg near Peine, Province of Hanover, with a daily production of 6,000 kilograms of a high quality light oil containing a high percentage of benzine and other high volatile oils.

"Not far from this place another boring was sunk, which was thought unsuccessful, and therefore should be discontinued. A well was struck, however, yielding nearly the same quantity of petroleum per day as the well mentioned. The quality of the petroleum was very good, with a high percentage of benzine. Previously the greater part of the raw oil produced in Hanover was an extremely heavy oil, containing a very low percentage of benzine.

"It would be, of course, wrong to overestimate the importance of the production of petroleum in Germany, as the present production covers only about one-twentieth of Germany's last year's requirements of mineral oils. Although the production of oil from coal will perhaps reach a figure of 10,000 tons in November or December of this year, the increasing production of petroleum appears to be more important."

RED MEDINA IN KANE DEEP WELL

OIL CITY, Pa., Mar. 24.—Red Medina sand has been struck in the deep experimental test well being drilled by the United Natural Gas Co. near Kane, according to an official announcement. The well has been one of the coolest deep tests ever drilled, the temperature being 143 degrees Fahrenheit at 7,000 feet. The well is now at 7,095 feet. A slight gas showing was found at 6,850 feet.

TO BUILD PIPE LINE

The Regal Oil Co. of Calgary, Alberta, has made application for a permit to construct an oil pipe line from the Turner Valley Field to the company's refinery at Calgary. The Royalite Oil Co. already has a line from the field to the Imperial Oil, Ltd., refinery at Calgary, and two lines deliver gas to the Canadian Western Natural Gas Co.

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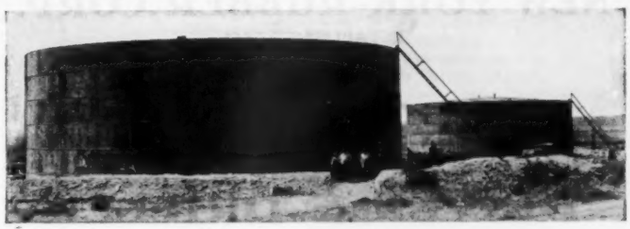

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MEXICAN PETROLEUM OUTPUT AND EXPORTS

MEXICO CITY, Mexico, Mar. 24.—Mexican petroleum production in January, according to official figures of the Bureau of Special Taxes, Department of Finance, amounted to 2,489,110 bbls. of heavy oil and 2,280,735 bbls. light oil, a total of 4,769,845 bbls.

Mexican Petroleum Co. produced 17.3 per cent; Huasteca Petroleum Co., 14.9 per cent; Penn Mex Fuel Co., 13.3 per cent; Mexican Eagle Co., 9.9 per cent; Empire Co., 6.9 per cent; Corona Co., 6.1 per cent; Transcontinental Co., 5.2 per cent; International Petroleum Co., 4.7 per cent; Mexican Gulf Co., 4.5 per cent.

Huasteca company had 43.8 per cent of the 2,955,312 bbls. exported; Mexican Eagle Co., 14 per cent; Rayon Petroleum Co., 10.3 per cent; Mexican Sinclair Co., 7 per cent; Corona Co. and Penn Mex Fuel Co., 6.4 per cent each; Mexican Gulf Co., 4.4 per cent.

Of the petroleum exported, 66.6 per cent went to the United States; 8.6 per cent to Great Britain; 7.8 per cent to the Bahamas; 6.1 per cent to Cuba; 3.2 per cent to Argentina; 2.4 per cent to Panama; 2.3 per cent to Brazil, and the remainder to Germany, Austrial, Belgium, France, Guatemala and Holland. In all, 74.4 per cent went to North America; 11.6 per cent to Europe; 6.1 per cent to the Antilles; 5.5 per cent to South America, and 2.4 per cent to Central America.

Unofficial figures on the export of petroleum from Mexican ports during the month of February show an increase of 380,067 bbls. The Huasteca Petroleum Co. continued to head the list of exporters, but showed a decrease in shipments over the January consignments.

Five of the twelve companies making shipments in February showed an increase, the remaining seven being under January figures. The companies showing increases were El Aguila, Imperio, Pierce Oil Co., The Texas Company of Mexico, and the Mexican Sinclair Corp. Those showing decreases were Minerva Oil Co., La Corona, Huasteca Petroleum Co., Mexican Atlas, Penn Mex Fuel Co., Transcontinental Petroleum Co., and the Mexican Gulf Oil Co.

Companies which have exported no oil during the present year are Montezuma Terminal Co., Mexican Oil Products Co., Panuco Boston.

The exports were as follows:

Company—	February
Huasteca	1,252,274.62
El Aguila	1,018,210.00
Transcontinental	287,808.86
Mexican Sinclair	232,709.42
Empire	190,100.45
Penn Mex	150,030.68
Pierce	107,627.26
Corona	103,167.02
The Texas Company	70,134.42
Mexican Gulf	63,065.31
Total	3,475,128.04

NEW JERSEY COMPANY GIVES PRICE VIEWS

The Standard Oil Co. of New Jersey in its monthly publication, The Lamp, reports that the petroleum industry is becoming more conservative.

"One by one the spectacular habits of its youth have gone into the discard," it says. "Now there is less excitement, less glamour and more bookkeeping. No longer does one hear of the gentleman who could not pay for a shave yesterday but buys a yacht today as a result of a lucky strike in a new pool. Gone is the operator whose office was in his hat and who concluded $1,000,000 deals in the hotel corridor.

"The industry has frequently seen wide and precipitous fluctuations in crude oil prices. A brief draft on stocks in storage stimulated the payment of premiums—the usual forerunner of higher posted prices. An oversupply of crude or products in the hands of individuals who preferred cash in the bank sent prices tumbling. This has been changed. The important price movements in the future will come more slowly and should be less far reaching in their swings. It may be that we have seen the last of the spectacular advances in crude prices.

"The explanation of this new situation is that the refiner no longer requires a definite amount of light gravity crude to make delivery of a fixed amount of gasoline. Crude oil is not the only source of supply available to him from which to meet the gasoline requirements. Fuel oil is now competitive with crude and is another important source of supply. The price of fuel oil directly affects the price which the refiner can pay for crude. If crude prices advance without a proportionate advance in fuel oil prices there will be a decline in the quantity of crude run, for instead of paying a higher price for the raw material the refiner, by changing his process, can maintain his production of motor fuel on a reduced throughput of crude. He will accomplish this by a reduction of straight distillation and increase in cracking operations.

"We have seen the reverse of this condition during the past year. An overabundance of gasoline-bearing crudes lowered quotations until there remained little, if any, profit for the refiner operating a cracking process. Once the pendulum starts in the other direction, unless there is a proportionate advance in the price of fuel oil, he will revert to a more efficient practice and by increased cracking operations materially reduce his requirements of crude. These changed conditions, under which the industry is now operating, would seem to be an assurance against the wide fluctuations in crude oil prices of previous years."

CO-OPERATION OIL STATIONS ESTABLISHED

(Continued from Page 192)

of gasoline and kerosene were bought during this period for 39 local associations.

The central association is organized on a nonstock basis, with membership fees of $20 for each affiliating society. The payment of the fee, however, has not been enforced. The Northern States' Co-operator comments upon the situation as follows:

"It is an extremely interesting fact that the Minnesota Co-op Oil Co. has been able to accumulate a quarter million business in eight months almost without a cent's capital. This has been possible only through the intelligent and loyal support of the 30 and odd co-operative oil associations that have patronized the State organization and through the fact that a man could be found who had such great faith in the future of the movement that he undertook to manage the concern without any initial capital, just banking on the loyalty of a few local groups who had pledged their support to it."

DIVIDENDS DECLARED

Directors of Tide Water Oil Co., a subsidiary of Tide Water Associated Oil Co., declared a dividend of 20 cents per share on the Tide Water Oil Co.'s no par common stock payable March 31, 1928 to stockholders of record March 16, 1928.

International Petroleum Co., Toronto, has declared a dividend of 25 cents a share, payable March 15 to stockholders of record March 8.

NEW ARGENTINE EXPLORATION

It has been reported that the Argentine government has acquired an important tract in the province of Salta on which the existence of petroleum has been proved. Other explorations will be carried on in the Territory of Rio Negro in the Andes.

NEW IRISH OIL PORT

The steamer "Oneida" has discharged a cargo of over 150,000 gallons of motor spirit and 100,000 gallons of oil into the tanks of the Irish-American Oil Co., Ltd., at Sligo, Ireland. This was the first time in the history of this West of Ireland port that motor spirit has been imported there. It is the intention of the oil company to import all their supplies in future by tanker.

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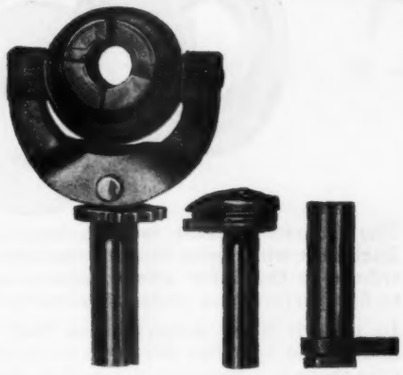
In some cases this pressure is extremely high and constant, in some cases it varies from low to high.

As the ports register, the powerful lubricator drive forces oil through each ported opening unfailingly—and oil is not compressible. As each drop is pumped through the port, it forces another drop into the cylinder.

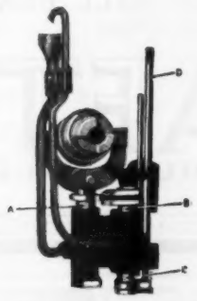
Lubrication data, lubrication service and co-operative experimental work in lubrication is always available to engineers and manufacturers.

[***MADISON-KIPP LUBRICATORS*** **are easily applied in the field on Oil, Gas, Steam Drilling Engines; Oil, Gas Pumping Engines; Compressors—Steam Pumps, Slush Pumps, Stationary Power**]

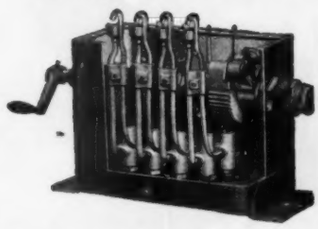


"B" is the suction and sight feed plunger, works within "C", the metering sleeve. The registry of the ports controls the quantity of oil delivered.

The delivery plunger "A" works in unison with the suction and sight feed plunger through the double eccentric and the universal yoke.



The above parts assembled into the pumping unit. "D" is the adjusting spindle, by turning it the metering sleeve is raised or lowered to increase or decrease the size and time of registry of the ports, and accordingly the flow of oil.



Units assembled in a tank with one type of drive mechanism. In these three illustrations every important operating part is clearly shown.

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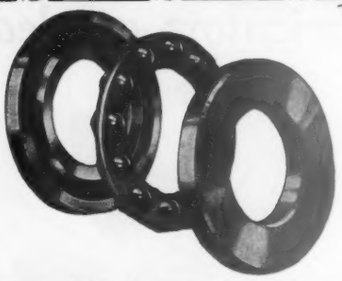

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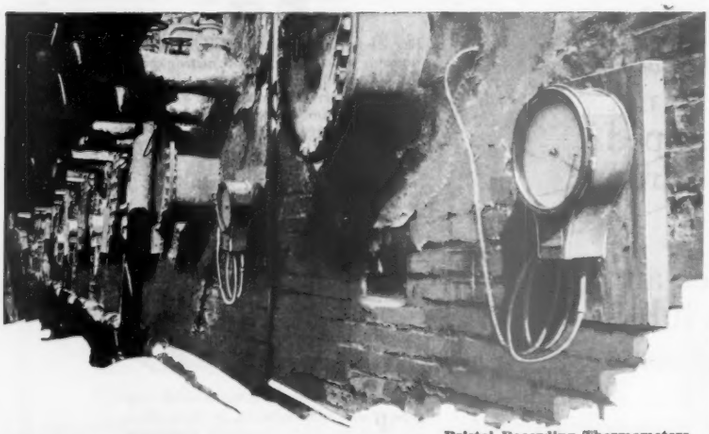

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GOVERNMENT OF POLAND SEEKS CONTROL OF OIL EXPLORATION

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Mar. 24.—The government of Poland has submitted to the Polish oil companies, and other organizations directly concerned, the draft of a proposed new law for their consideration and comment which sounds strangely like the petroleum law adopted by Mexico by which a licensing system for the production of oil was substituted for ownership in fee simple.

This action comes at a time when, according to a report by Assistant Trade Commissioner Gilbert Redfern at Warsaw, the Polish oil industry is seriously concerned regarding the continuously decreasing output of crude oil concurrently within increasing domestic consumption which raises the question whether Poland within a year or two may cease to be an oil exporting country.

Mr. Redfern concludes his statement that it is the opinion of authorities that the government will promulgate the new oil law in the near future, and that it will establish the "Regale Principle."

Draft of the Law

The draft of the law which has been submitted to the oil companies and others interested follows:

"Contrary to the provisions of paragraph 1 of the petroleum law of March 22, 1908—No. 61 of the Bulletin of Laws—the right to search for and exploit crude oil and natural gases will be granted by the mining authorities under conditions to be determined by a new law.

"The proprietors of the land shall receive a royalty of 5 per cent of gross production.

"Rights for exploitation of mineral oil and natural gas already acquired up to the present directly from the proprietors of the land can be exercised until their expiration. This period of time, however, can not exceed 25 years from the date of the promulgation of the new law.

"In the case of nonexecution of mining operations by the holder of these rights within a period of five years on the concessioned land, the mining authorities may grant to third parties the right to prospect on such tracts. In case legal conditions arise permitting such action, the mining authorities will issue to those parties grants which may also cover the tracts heretofore mentioned.

"In the last-mentioned case the mining authorities would fix, by acts drawn in the names of the third parties, and on the basis of the former contracts, the compensation which the new grantee will be obliged to give to the parties hitherto enjoying such rights.

"The ordinary channels of justice will remain open to those who consider themselves wronged by this transfer of rights; but in no way can this recourse to law suspend the rights of the new owner in executing the necessary works."

Time Limit

It will be observed that under this proposed law that "rights for exploitation of mineral oil and natural gas already acquired up to the present directly from the proprietors of the land can be exercised until their expiration. This period of time, however, can not exceed 25 years from the date of the promulgation of the new law."

The other provisions of this proposed law indicate restrictions on former ownership. The last paragraph sounds strangely like the Mexican procedure in that it says that "the ordinary channels of justice will remain open to those who consider themselves wronged by this transfer of rights; but in no way can this recourse to law suspend the rights of the new owner in executing the necessary works," which refers to the new owner after a former owner has been ousted for failure to comply with the leases he had acquired within in a period of five years, although those rights would not have been jeopardized by the law as it previously existed.

While the oil production of Poland is comparatively small and dwindling, yet it is a fact that the Standard Oil Co. of New Jersey has drilling rights in Poland, being the only American company there in that capacity.

The Vacuum Oil Co. has had some small refinery situations in Poland, but there is nothing to indicate in this proposed law any interference with their operations. The truth is, the rights enjoyed by the Standard Oil Co. of New Jersey are not regarded as highly important but confiscatory legislation will not be overlooked regardless of the amount of confiscation that may be involved.

Result of Losses

This movement on the part of the government of Poland to extend its control over production of oil is largely the result of the unfortunate experiences of that government in the establishment of oil refineries which, with the dwindling oil production, have become not only unprofitable but the subject for annual appropriations to meet deficits. The move now being made by Poland seems to be a part of a desperate effort to place its nationalized industry on a paying basis.

In 1908 legislation was enacted which abandoned to the landed proprietor all rights over petroleum deposits which might be in the subsoil in Galicia, then under Austrian rule. After Galicia became a part of the Republic of Poland in 1919 no attempts were made to contest the ownership of subsoil rights and the principle of the law of 1908 has remained in effect until the present time.

Royalty 5 Per Cent

An important feature of the proposed law is the fixing of a royalty of only 5 per cent of gross production to be paid to surface proprietors. The royalties at present demanded by Galician land owners are very high and amount in many cases to 20 per cent of gross production, plus 20 per cent of the net. As it now costs nearly $100,000 to complete a well in Galicia, and the production per well rarely exceeds 200 to 300 bbls. per day, it is evident that the royalties now demanded make it practically impossible for the oil companies to do exploration work. The extension of exploration work is the main object that seems to be sought by the proposed legislation.

The Polish production of crude petroleum during the first nine months of 1926 amounted to 605,573 metric tons, while for the same nine months of 1927, the production dropped to 542,923 metric tons.

During these same periods there was a drop in refinery output from 535,340 metric tons to 453,894 metric tons and during the same period the domestic consumption was increased from 206,269 metric tons to 248,620 metric tons. In these periods there was a drop in exports of from 345,595 metric tons to 211,048 metric tons.

These figures show the critical situation that is being experienced in the Polish oil industry.

Difference in Views

According to a newspaper report, the employers' association in the center of the Galician petroleum industry in which a large number of oil producers, refiners and marketers were represented, voted unanimously to accept the government's proposed fundamental change in the petroleum law.

The chambers of commerce and industries which were invited to comment on the proposed law have taken a different attitude from that reported taken by the employers' association. They advocate the maintenance of the accession principle, but with modifications so that the most pressing needs of the oil companies, such as royalty rates and reduced charges for leases, will be considered. The chambers of commerce and industries have many

"UNITED" POLISH ROD SOCKET GRIP AND SWIVEL BEARING!

THE United Polished Rod Socket Grip forms the connection between the polished rod and the walking beam or pumping jack, by gripping the polish rod in such manner that the beam of jack can impart to the polish rod the reciprocating pumping motion. The grip consists of one-piece steel spider, bored taper and one-piece, three-jawed slip of hardened steel, machined outside to conform to the taper bore of the spider. The slip engages the polish rod by means of a bore with serrated teeth, commonly called wickers. These wickers are of fine pitch so that they will engage the smooth surface of the polish rod positively, but will not mar the rods to any great extent.

The United Polished Rod Swivel Bearing is placed between the grip and the member that supports the load, and permits free rotation of a string of sucker rods in either direction. This eliminates the tendency of the sucker rods to unscrew and provides what might be termed a full floating effect. Of very simple design, consisting only of two collars with a ball thrust bearing interposed between.

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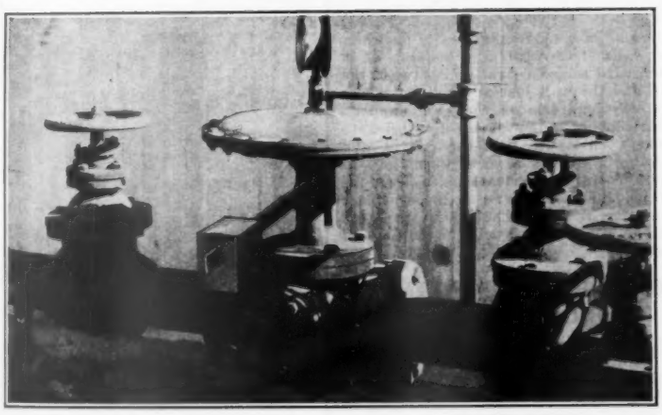

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Candle-power of Lamps	Wattage of Lamps	Number of Lamps
18	25	100
30	40	62
38	50	50
46	60	41
70	75	33
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STEEL PLATE CONSTRUCTION
Stills, Refinery equipment of every kind.
Steel Oil Storage Tanks, Condensers,
Fabricated and Erected
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General Offices—Pittsburgh, Pa.

land owners and others interested in oil royalties from the receiving end.

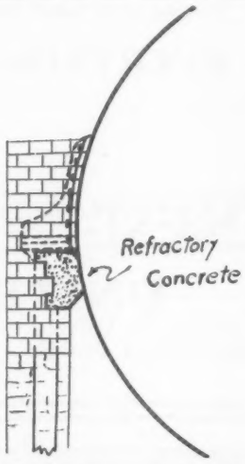
The general course sought to be adopted by the Polish government tends toward the nationalization of the Polish oil industry and broadly suggests legislative action similar to that which has been adopted in numerous other countries that have had the same purpose in view.

ECONOMIES FROM REFINERY SALVAGE

(Continued from Page 190)

the shape of the pipe which will not crack or change shape except after very long use. After the pipe nipples are corroded out, a slight adjustment of the position of the burner nozzle may prove necessary to get the best air-fuel mixture but after that little attention need to be paid to adjustments. By preparing the still setting to accommodate the iron form replacements may be made quickly. The size of these forms may be standardized and an extra one kept on hand at all times.

Another use for this refractory cement



is found in plugging up major holes in the walls of the stills and boilers. It is often hard to get a tight seal between the still and the wall just at the point where the still lug rests on the steel support. By removing a few of the fire brick to make a cavity to hold the cement and building a wooden form between the still and the wall, a cement casting may be poured that will serve as a permanent and effective plug. The wooden box need not be removed but will be burned, of course.

CONSIDER BASIS FOR LONG TIME CONTRACTS

(Continued from Page 190)

general standard of volatility by blending in varying amounts of natural gasoline.

Refinery Gasoline

The refinery gasolines will vary in volatility principally as a result of the kind of crude oil refined and while some crudes may produce a fairly high percentage of gasoline the resultant gasoline may be deficient in volatility and a relatively large amount of natural gasoline is needed to bring it up to a standard. Thus refinery gasolines might be made from cheap crudes which would tend to hold the price of 58-60 U. S. Motor gasoline down but because of the increased use of natural gasoline, natural gasoline spot prices would tend to increase and a contract based on the refinery gasoline price would be inequitable.

Another factor which influences the cost of producing refinery gasolines and is somewhat independent of the balance between the supply and demand of natural gasoline is cracking. It is possible to have a condition where the manufacturing cost of producing refinery gasoline is materially reduced by cracking cheap gas oil or fuel oil and where from 5 to 20 per cent natural gasoline is needed to bring the refinery production up to

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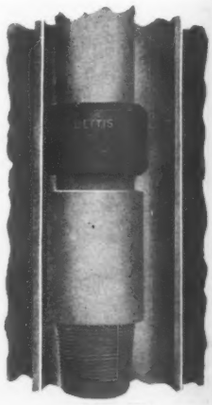

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Shoots well 6235 feet deep.

A few months ago we shot for Roxana Petroleum Corp. the deepest well that ever had been shot up to that time, depth 6165 feet.

January 18 we broke this record by successfully shooting for Wentz Oil Division the deepest well ever shot, Williams No. 1 in Logan County, Okla., at the record depth of 6235 feet.

Both of these wells were shot by W. F. Knode, EASTERN EXPERT.

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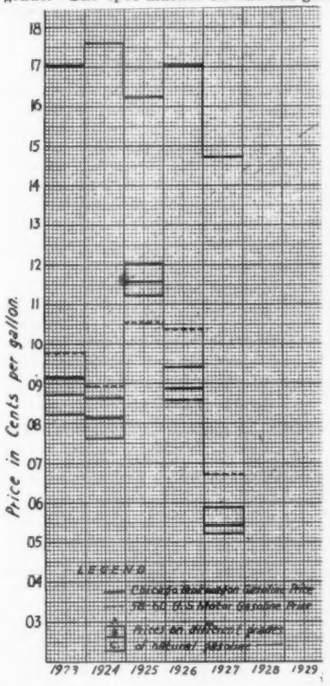
the required volatility, thus necessitating the demand for natural gasoline.

This would be particularly true where the refinery equipment allowed a high waste of the more volatile fractions during distillation, condensing and treating. It is pointed out in this connection that it would be an easy matter to overlook conservation of these light ends if natural gasoline could be purchased cheaply to replace what was lost as waste during the processing. Thus a natural gasoline contract price based on the refinery gasoline price, taking 58-60 U. S. Motor gasoline as the basis might prove to the disadvantage of the natural gasoline manufacturer.

This seems preferable to basing it on the 58-60 Motor price because more natural gasoline is ordinarily used in blending up the 64-66 grade than the 58-60 grade. The spot market on natural gasoline will have most effect on the refinery gasoline requiring the greatest amount of natural gasoline in the blend, and in effect, the contract price will really be influenced by the spot price and this system seems to be a rather roundabout way of seeking a good basis.



It is claimed by some A 64-66 400 endpoint gasoline would be even better than a 64-66 375 endpoint because it requires still more natural gasoline in the blend but the same roundabout process of the natural gasoline spot price influencing the 64-66 400 endpoint holds. At times when natural gasoline spot prices are high, it is questionable whether enough of these grades would move during all periods of the year to afford a consistent basis for a contract.

Tank Wagon Basis

In the past, the posted tank wagon price at some point served as the basis of the contract price of natural gasoline but this is not used now to any great extent. As marketing conditions become more and more competitive the larger consuming centers which might be taken

LEGAL

TRIBAL OSAGE OIL LEASES AT PUBLIC AUCTION
March 28 and 29, 1928
By United States Government

March 28 and 29, 1928, at Pawhuska, Oklahoma, about 90,000 acres will be offered for oil leases in quarter section tracts. Bids will be for bonus in addition to royalties, 25% payable on day of sale, balance in three annual installments, with acceptable security. Within advertised area there are about 9,875 oil wells producing from one barrel to 2,000 barrels each, the total daily production for December, 1927, being about 58,200 barrels; also there are about 55 wells drilling. All lands are now leased separately for gas. Blue print maps of area advertised, showing tracts producing oil or gas, can be had for fifty cents each, also logs of producing oil or gas wells for twenty-five cents each well. Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs or other information.

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Classified Wants Department

as the logical basis for the tank wagon price also are the chosen points for "dumping" and "price cutting," which makes the posted tank wagon price low in comparison to the general market structure and abnormally low prices may be put in effect at any time.

The lack of uniformity in the variation of the average natural gasoline prices, crude prices and the Chicago tank wagon prices may be seen in the accompanying chart and table covering the last five years. The Oklahoma natural gasoline spot prices for A, B and C grades, the spot price on 58-60 U. S. Motor gasoline and the Chicago tank wagon gasoline price based on dumps of 100 gallons as shown in the weekly market of The Oil and Gas Journal are taken as the basis.

AMERICAN COMPANIES IN MOSUL AGREEMENT

By Charles E. Kern

WASHINGTON, D. C., Mar. 24.—Negotiations are under way for determining the proportion of production of the several interests that own the Turkish Petroleum Co. Mosul concession. Up to this time the public has been informed that the group of five American oil companies would share in one-fourth of the Mosul production but that division has been opposed so that negotiations are under way to reduce this interest to 21.25 per cent. of the production.

The modified proposal is to give the Anglo Persian Co. 10 per cent and Gulbenkian 5 per cent of the total production before any other division is made. It will be remembered Gulbenkian had his claims recognized for an interest in

LEGAL

NOTICE OF SALE OF STATE ROYALTY OIL

Notice is hereby given that the Board of Land Commissioners of the State of Wyoming will receive and consider sealed bids or proposals for the purchase of royalty oil, natural gas, casinghead gasoline and natural gasoline derived from leases upon State lands located in the following Oil and Gas fields in the State of Wyoming, to-wit:

Osage Elk Basin Ferris Mahoney Dome Big Muddy Rock Creek Grass Creek

subject to the following conditions:

1. All bids or proposals must be received at the Office of the Commissioner of Public Lands, Capitol Building, Cheyenne, Wyoming, on or before ten o'clock A.M., Monday, April 16th, 1928.
2. The royalties offered for sale have been appraised to sell for not less than the posted field price for oil of like kind and quality and the prevailing field price for natural gas, casinghead gasoline, and natural gasoline. Therefore, no bids or proposals will be considered for less than the field price for each product of like kind and quality.
3. All bids or proposals must be accompanied by a filing fee of $1.00; also a certified check payable to the Commissioner of Public Lands for $5,000.00 for each field covered in the bid or proposal, as a guarantee that should the bid or proposal be accepted by the Board of Land Commissioners the terms thereof will be fulfilled by the bidder.
4. Bids or proposals may cover the entire output in all of the fields, or may be submitted separately, or covering the output from one or more leases, covering the output in one field, or more than one field.
5. All oil must be refined in the State of Wyoming.
6. Bids or proposals will be considered for a period of one, three, and five years.
7. The successful bidder will be required to furnish a surety bond, in the amount fixed by the Board of Land Commissioners, guaranteeing the performance of the contract.
8. Each bid or proposal must be distinctly marked "Bid for Royalty Oil."
9. Sworn financial statements of all bidders must accompany such bids. All associations, or individuals not incorporated, must furnish a sworn statement listing the individuals interested in the bids.
10. The Board reserves the right to reject any or all bids or proposals offered for said royalties.
11. The new contract covering Big Muddy Field will not become effective until August 9, 1928.

Statements showing the production and gravity from each field for the last five years may be secured from the Commissioner of Public Lands.

In Witness Whereof, We have hereunto set our hands and caused to be affixed the seal of the Board this 8th day of March, A. D. 1928.

(SEAL)

ATTEST:

C. M. COX,
Commissioner of Public Lands, Secretary.

FRANK C. EMERSON,
President, Board of Land Commissioners of the State of Wyoming.

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TEXAS OIL MAPS
County and District Catalog on Application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

the Turkish Petroleum Co. After the foregoing division of the production, it is proposed to divide the remainder in four parts, one to the Shell, one to the Anglo Persian, another to the French, and the fourth to the American group. The latter consists of the Standard Oil Co. of New Jersey, the Standard Oil Co. of New York, the Gulf Oil Co., the Atlantic Refining Co., and the Pan American Oil Co., now a subsidiary of the Standard Oil Co. of Indiana. The Texas Company and the Sinclair company were originally included in this group of American companies but for reasons of their own they withdrew.

The five American companies that have continued their interests in the Mosul oil fields in order to simplify their holdings to that enterprise have formed the Near East Development Corp. which will receive the oil allocated to this group and dispose of it according to the mutual interests of those concerned.

RULING ON MINERAL RIGHTS

WASHINGTON, D. C., Mar. 24.—The owner of a homestead does not have preference for the lease of reserve mineral rights. Assistant Secretary of the Interior Edward C. Finney has decided that a prior application for oil shale privileges is to be given precedence by the General Land Office. The Smallhorn Oil Shale Refining Co. filed an application for an oil shale lease including territory of a homested entry made by Frederick J. Crampton in Montana. Mr. Crampton accepted a certificate with a revocation of oil and gas rights vested in the United States but subsequently filed application for a lease for the oil shale resources. The claim of the Smallhorn company to priority has now been upheld.

LEGAL

SALE OF OIL AND GAS LEASES DEPARTMENT OF THE INTERIOR Shreveport, Louisiana

Notice is hereby given that the following described lands in eight units in the known geologic structure of the Monroe Gas Field, Louisiana, are offered for lease under Section 17 of the act of February 25, 1920 (41 Stat., 437), at the customary sliding scale of 12½ to 33⅓ per cent of the quantity or value of the oil produced, of 12½ to 16⅔ per cent of the value of the gas produced and of 16⅔ per cent of the value of the natural-gas gasoline produced from each unit in accordance with the royalty schedule in the regular lease form, and the rental as required by Section 17 of the said act:

Unit No. 1.
T. 18 N., R. 4 E., Sec. 24, Lot 3, 9.24 acres.

Unit No. 2.
T. 19 N., R. 4 E., Sec. 8, NE¼ of NE¼, 40.00 acres.

Unit No. 3.
T. 19 N., R. 4 E., Sec. 30, Lots 1, 2, SE¼ NW¼, 106.70 acres.

Unit No. 4.
T. 19 N., R. 5 E., Sec. 10, SE¼ of SE¼, 39.82 acres.
T. 20 N., R. 5 E., Sec. 34, SE¼ of SE¼, 40.07 acres.

Unit No. 5.
T. 19 N., R. 5 E., Sec. 18, S½ of NW¼, Sec. 20, SW¼ of NW¼, Sec. 30, SW¼ of SE¼, 160.47 acres.

Unit No. 6.
T. 20 N., R. 3 E., Sec. 36, Lot 4, 15.30 acres.
T. 20 N., R. 4 E., Sec. 7, NW¼ of SW¼, 39.99 acres.

Unit No. 7.
T. 20 N., R. 4 E., Sec. 1, SE¼ of NW¼, Sec. 12, NW¼ of NE¼, 74.33 acres.

Unit No. 8.
T. 21 N., R. 5 E., Sec. 20, Lot 1; Sec. 29, NE¼ of SW¼; Sec. 33, Lots 2, 3, 4, 124.84 acres; all Louisiana Meridian, Louisiana, total, 651.26 acres.

The units are to be offered separately and are to be so considered as a basis for the payment of royalty, but any lessee may acquire two or more of the units in which the combined acreage does not exceed 640 acres.

The lands are offered for lease subject to the drilling of offset wells by the lessee first on lands adjacent to tracts on which commercial production of gas has been demonstrated, such drilling operations to be initiated within ninety days after the delivery of the executed lease, each succeeding well thereafter as required to be drilled by the terms of the lease shall be spudded in within ninety days of the completion of the drilling well, all drilling operations to be in conformity with the laws of the State of Louisiana and to be continuously and diligently prosecuted in accordance with the Federal oil and gas regulations.

Said leases will be offered for sale by public auction at the Federal Court Room, Shreveport, Louisiana, at 10 a. m., on February 27, 1928. The successful bidder must deposit on the date of sale, with the officer in charge of the sale certified check on a solvent bank, or cash, for one-fifth of the amount bid by him, and file the showing of qualifications to receive a lease required by Sec. 15 of said regulations.

Bidders are warned against violations of the provisions of Sec. 59, U. S. Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders.

The right is reserved to reject any and all bids in the discretion of the Secretary of the Interior.

JAMES W. NEAL,
Officer in Charge.

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for January

Runs

	Month	Dly. Av.
*Prairie Pipe Line Co.	4,495,000	145,000
Gulf Pipe Line Co.	1,286,286	41,493
Texas Pipe Line Co.	1,369,006	44,161
Empire Pipe Line Co.	899,765	29,025
Magnolia Pipe Line Co.	2,127,721	68,636
Cosden Pipe Line Co.	841,638	27,150
*Sinclair Pipe Line Co.	2,619,500	84,500
Oklahoma Pipe Line Co.	3,648,712	117,700
Shell Pipe Line Co.	2,299,738	74,185
*Other lines	4,898,000	158,000
Total January	24,485,369	789,850
Total December	25,634,861	826,931
Difference	1,149,492	36,081

Shipments

Prairie Pipe Line Co.	5,394,759	174,025
Gulf Pipe Line Co.	1,287,671	41,538
Texas Pipe Line Co.	1,025,364	33,076
Empire Pipe Line Co.	965,801	31,155
Magnolia Pipe Line Co.	1,803,315	58,171
Cosden Pipe Line Co.	952,849	30,737
†Sinclair Pipe Line Co.	2,697,287	87,009
Oklahoma Pipe Line Co.	3,398,618	109,630
Shell Pipe Line Co.	2,321,651	74,892
*Other lines	5,580,000	180,000
Total January	25,427,215	820,233
Total December	25,845,087	833,709

Stocks

*Prairie Oil & Gas Co.	32,350,000
*Prairie Pipe Line Co.	2,500,000
Gulf P. L. and Gypsy Oil Co.	10,318,789
The Texas Company	6,426,846
Empire Pipe Line Co.	4,334,405
Cosden Pipe Line Co.	3,350,359
*Sinclair Crude Oil Pur. Co.	21,170,000
Magnolia Petroleum Co.	6,426,846
Oklahoma Pipe Line Co.	2,945,120
Carter Oil Co.	15,404,340
*Other lines	11,750,000
Total January	116,976,705
Total December	116,671,808
Difference	304,897

*Estimated. †Prairie shipments include Texas crude oil and Sinclair shipments include Texas and Wyoming crude oil.

Note: Stocks do not include approximately 7,000,000 bbls. of crude oil held in storage on private tank farms and leases and 1,500,000 bbls. of Texas Panhandle crude oil in storage in Oklahoma and Kansas.

EASTERN PIPE LINES

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for January and February:

	Jan.'28	Feb.'28
Nat. Transit	150,803.87	150,792.56
S. W. Pa. P. L.	86,787.96	86,300.70
Eureka P. L.	361,589.34	358,514.02
Buckeye P. L. (Macksburg)	342,901.40	336,290.14
Buckeye P. L. (Cleveland)	10,402.53	10,650.78
Buckeye P. L. (Lima, etc.)	102,753.20	103,503.36
Indiana P. L.	5,916.95	6,990.90
Cumberland P. L.	224,870.56	216,913.65
N. Y. Transit	21,317.31	20,961.60
Tidewater P. L.	181,415.82	179,353.35
Pure Oil	66,257.80	64,170.62
Emery P. L.	52,122.24	54,952.72
Paragon Dev.	21,188.15	46,564.77
Stoll Oil Ref.	11,710.30	12,100.29
Total	1,640,037.53	1,653,059.46
Daily avg.	52,904.44	57,002.05

Note—Indian Refining Co. also reported other receipts of 306,927.39 bbls. Paragon Refining Co. had other receipts of 171,374.16 bbls. Paragon Development had other receipts of 1,343.02 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for December and January:

	Jan.'28	Feb.'28
Nat. Transit	469,229.36	550,710.53
S. W. Pa. P. L.	359,339.67	300,851.13
Eureka P. L.	187,006.50	92,771.88
Buckeye P. L. (Macksburg)	140,151.88	134,030.96
Buckeye P. L. (Cleveland)	1,221.53	973.44
Buckeye P. L. (Lima, etc.)	951,977.88	1,391,510.04
Indiana P. L.	1,170,000.62	1,160,002.87
Cumberland P. L.	118,509.61	127,571.67
N. Y. Transit	128,722.19	149,006.60
Northern P. L.	185,009.93	163,752.84
Tidewater P. L.	153,752.94	143,951.23
Pure Oil	68,558.07	63,494.40
Emery P. L.	55,982.54	54,814.47
Paragon Ref.	182,235.57	167,179.39
Indian Ref.	347,862.85	307,199.80
Paragon Dev.	20,658.67	45,839.18
Total	4,540,221.80	4,853,665.42
Daily av.	146,465.22	167,367.77

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of January and February:

	Jan.'28	Feb.'28
Nat. Transit	1,149,108.83	1,123,231.06
S. W. Pa. P. L.	675,945.25	756,131.52
Eureka P. L.	1,715,048.80	1,782,756.00
Buckeye P. L. (Macksburg)	426,940.19	434,216.33
Buckeye P. L. (Cleveland)	42,161.52	55,006.63
Buckeye P. L. (Lima, etc.)	5,132,654.61	4,763,213.91
Indiana P. L.	637,623.18	695,067.72
Cumberland P. L.	627,679.02	650,094.40
Southern P. L.	378,610.99	383,995.42
N. Y. Transit	753,445.09	808,998.76
Northern P. L.	547,050.82	537,565.25
Pure Oil	59,565.11	60,918.70
Emery P. L.	7,313.38	7,916.48
Paragon Ref.	16,869.68	20,811.72
Indian Ref.	99,260.00	100,463.76
Paragon Dev.	7,43..22	10,081.11
Total	12,276,709.76	12,180,418.82
Decrease	63,587.49	96,290.94

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of January and February, showing the gross stocks of the above fields:

	Jan.'28	Feb.'28
Pennsylvania	3,823,756.32	3,821,514.45
Lima	1,202,935.45	762,432.37
Kentucky	996,124.21	1,049,761.11
Mid-Continent	6,186,868.36	6,460,176.14
Illinois	67,025.42	86,534.76
Total	12,276,709.76	12,180,418.82

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1925	1926	1927	1928
Jan.	56,831	55,630	56,209	52,904
Feb.	60,606	60,394	61,298	57,002
Mar.	60,575	61,644	63,247	.....
April	63,062	63,019	60,337	.....
May	59,217	60,580	60,284	.....
June	61,270	61,131	62,767	.....
July	62,639	63,206	58,674	.....
Aug.	69,686	61,815	60,870	.....
Sept.	62,610	64,639	60,385	.....
Oct.	145,388	161,132	147,036	.....
Nov.	59,350	61,774	57,275	.....
Dec.	57,974	58,755	53,089	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1925	1926	1927	1928
Jan.	157,889	156,056	141,227	146,465
Feb.	160,863	159,488	138,534	167,368
Mar.	154,591	150,239	133,777	.....
April	151,429	152,371	140,227	.....
May	146,996	160,998	144,594	.....
June	149,467	160,257	149,772	.....
July	161,338	160,045	151,850	.....
Aug.	161,730	151,329	158,653	.....
Sept.	156,719	158,915	144,213	.....
Oct.	145,388	161,132	147,036	.....
Nov.	143,582	152,608	150,975	.....
Dec.	150,162	136,428	144,504	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1926	1927	1928
Jan.	9,859,170	9,718,008	12,276,710
Feb.	9,579,354	10,119,162	12,180,419
Mar.	9,438,292	10,794,044	.....
April	9,805,851	11,112,895	.....
May	9,531,757	11,359,381	.....
June	9,585,904	11,493,678	.....
July	9,734,687	11,458,128	.....
Aug.	9,058,947	11,989,115	.....
Sept.	9,436,732	12,212,716	.....
Oct.	9,269,806	12,047,661	.....
Nov.	9,257,067	11,929,740	.....
Dec.	9,454,513	12,340,297	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1927—	Runs	Shipments	Stocks
Jan.	2,641.54	1,470.42	14,274.14
Feb.	2,764.30	1,082.52	15,956.32
Mar.	2,587.20	1,878.56	16,664.96
April	2,834.23	1,612.65	17,886.54
May	2,708.40	539.29	20,215.72
June	2,946.29	664.40	22,497.61
July	3,153.39	1,276.61	24,374.39
Aug.	3,057.89	8,712.11	18,719.21
Sept.	3,309.56	2,656.48	19,372.25
Oct.	2,801.33	1,226.90	20,946.51
Nov.	2,746.50	2,220.52	21,472.55
Dec.	2,779.86	1,893.69	22,358.72
1928—			
Jan.	1,886.06	2,424.79	21,819.99

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, March 1	2,225,305.00
Runs from wells	546,734.01
Other receipts	479,736.59
Regular deliveries	897,859.31
Other deliveries	401,676.51

The amount of Illinois oil run by the Tidewater Pipe Co. in February was 26,885.77 bbls., and deliveries were 53,867.58 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1927—	Runs	Deliveries
February	595,831.16	476,950.71
March	727,593.94	554,947.43
April	598,225.97	444,818.40
May	738,759.40	543,192.01
June	640,975.85	532,217.71
July	613,961.30	484,902.51
August	651,276.40	529,331.37
September	619,589.49	433,212.40
October	601,099.35	408,337.51
November	606,621.14	415,185.80
December	577,321.36	397,176.97
1928—		
January	561,759.57	434,147.01
February	573,619.78	450,217.51

Tidewater Pipe Co., Ltd., also delivered in February, 251,024.23 bbls. of Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
September	23,033	6,967	51,400	14,567	19,533	115,500	.....	.....	.....	.....	.....	115,500
October	20,936	4,355	47,968	14,129	14,387	101,774	.....	.....	.....	.....	.....	101,774
November	9,433	2,833	23,033	16,166	4,933	55,400	.....	.....	.....	.....	.....	55,400
December	10,742	3,033	30,258	24,387	7,065	75,484	.....	.....	.....	.....	3,513	78,997
January	15,387	3,032	31,032	7,453	9,710	66,613	.....	.....	.....	.....	.....	66,613

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
September	28,033	11,433	55,500	12,800	37,700	175,467	5,667	19,233	.....	3,600	28,500	203,967
October	26,064	13,097	79,355	3,838	34,097	156,451	1,613	19,333	806	1,871	23,612	180,064
November	35,233	8,033	84,533	36,100	27,067	184,967	4,000	26,500	2,000	1,667	34,167	219,133
December	39,968	2,387	78,968	19,097	29,836	170,258	2,580	15,256	839	1,226	20,000	190,258
January	15,226	4,323	107,645	27,871	39,774	194,839	5,000	32,516	.....	1,355	38,871	233,710

GROSS PRODUCTION IN UNITED STATES FOR 12 MONTHS (REVISED)

(In Barrels)

1927—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
February:	Month	17,982,711	19,752,348	16,425,416	3,353,076	3,574,256	1,842,400	2,439,564	2,007,200	66,976,371
	Daily average	642,240	705,441	586,622	119,717	127,652	65,800	87,128	107,400	
March:	Month	19,835,724	23,480,931	18,179,491	3,675,143	3,853,920	2,086,108	2,684,724	2,335,800	76,131,521
	Daily average	639,862	735,191	586,435	118,553	124,320	67,294	86,604	105,100	
April:	Month	19,493,825	22,208,130	17,755,920	3,516,930	3,378,240	2,039,550	2,671,830	2,474,000	74,538,430
	Daily average	649,794	740,271	591,864	117,231	112,608	67,985	89,061	115,800	
May:	Month	19,506,054	23,258,463	19,489,607	3,704,314	3,492,669	1,984,651	2,682,151	2,467,000	77,585,909
	Daily average	629,228	750,273	628,697	119,494	112,699	64,021	86,521	111,839	
June:	Month	19,181,442	22,830,330	18,360,450	3,437,580	3,365,760	1,920,180	2,624,570	2,320,000	75,060,313
	Daily average	639,381	761,011	612,015	114,586	112,192	64,006	87,319	111,000	
July:	Month	19,319,021	26,522,546	17,580,348	3,454,082	3,406,683	2,311,019	2,678,679	2,362,200	78,635,079
	Daily average	623,194	855,566	567,108	111,423	109,893	74,549	86,409	108,484	
August:	Month	19,279,131	26,283,350	17,682,927	3,442,240	3,242,600	2,231,202	2,489,021	2,671,000	78,221,471
	Daily average	621,907	847,850	570,417	111,040	104,600	71,974	80,291	116,194	
September:	Month	19,064,500	24,111,660	18,322,800	3,341,340	3,032,970	2,027,070	2,268,630	3,465,000	75,633,970
	Daily average	635,483	803,722	610,760	111,378	101,099	67,569	75,621	111,774	
October:	Month	19,448,893	24,247,055	19,200,095	3,509,169	3,117,298	2,058,889	2,258,885	3,400,000	77,340,285
	Daily average	627,384	782,163	619,358	113,199	100,555	66,416	72,867	109,677	
November:	Month	18,516,467	23,083,380	18,628,290	3,313,650	2,906,760	1,956,960	2,234,730	3,202,500	73,943,737
	Daily average	617,216	769,446	620,943	110,455	96,893	65,232	74,491	110,052	
December:	Month	19,038,828	22,208,417	19,840,009	3,427,174	2,962,750	1,927,148	2,400,578	3,219,900	74,934,709
	Daily average	610,930	716,400	640,000	110,554	95,576	62,166	77,438	103,868	
1928—										
January:	Month	19,028,328	21,146,619	20,023,156	3,319,325	2,791,891	1,839,106	2,429,376	3,193,000	73,770,700
	Daily average	613,814	682,149	645,876	107,075	90,061	59,326	78,359	101,000	2,377,765
	Total 12 months	229,594,819	278,133,217	221,488,512	41,493,023	39,126,797	24,234,283	29,573,037	40,068,700	904,002,388
	Daily average	629,027	762,009	606,819	113,680	107,196	66,368	81,044	109,775	2,476,719

PREPAREDNESS

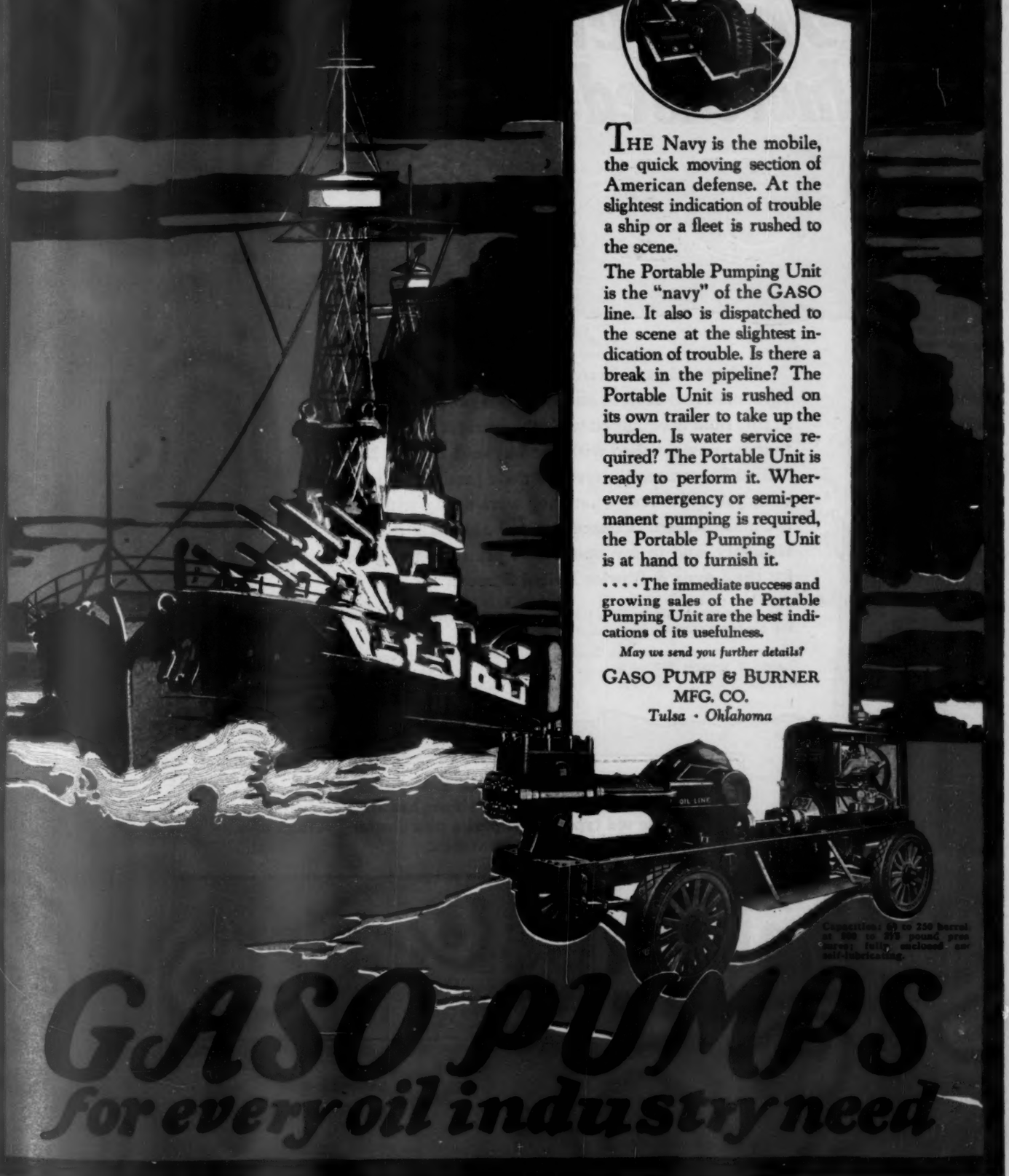
THE Navy is the mobile, the quick moving section of American defense. At the slightest indication of trouble a ship or a fleet is rushed to the scene.

The Portable Pumping Unit is the "navy" of the GASO line. It also is dispatched to the scene at the slightest indication of trouble. Is there a break in the pipeline? The Portable Unit is rushed on its own trailer to take up the burden. Is water service required? The Portable Unit is ready to perform it. Wherever emergency or semi-permanent pumping is required, the Portable Pumping Unit is at hand to furnish it.

• • • • The immediate success and growing sales of the Portable Pumping Unit are the best indications of its usefulness.

May we send you further details?

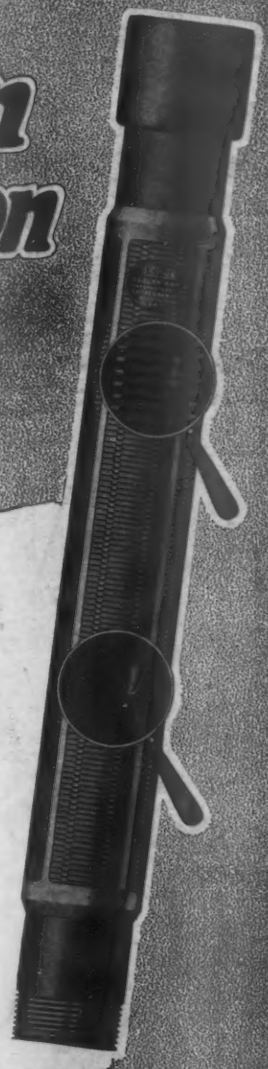
GASO PUMP & BURNER MFG. CO.
Tulsa · Oklahoma



Capacities: 40 to 250 barrels at 800 to 215 pound pressure; fully enclosed and self-lubricating.

GASO PUMPS
for every oil industry need

This New Screen Increased Production 33⅓%



"I have always been a great believer in Layne Screen, in fact each of our forty-one producing wells in this field is equipped with this screen. The wells that are now finished with the Layne & Bowler New Milled Screen have increased their production more than one-third over what they were doing with just the plain screen. Consequently, I am using this exclusively, and in my opinion no praise is too great for the Layne & Bowler Milled Screen."

The above paragraph is taken from an unsolicited letter from one of the biggest producing companies in Louisiana.

Many other companies are having similar success with the new Layne & Bowler Milled Screen.

The new Layne & Bowler Milled Groove Screen, as shown in the illustration above, has all the advantages of the old type screen plus a much enlarged inlet area without weakening the screen.

The Layne & Bowler Co.

THE LAYNE-NEW YORK CO.
30 CHURCH ST. NEW YORK

HOUSTON, TEXAS
THE LAYNE AND BOWLER CORP.
LOS ANGELES, CALIF.

VICKERS LIMITED
LONDON, ENGLAND